

THE  
**SOUTHERN AGRICULTURIST.**

SEPTEMBER, 1835.

---

**PART I.**

**ORIGINAL COMMUNICATIONS.**

---

*Reflections on the Decline and Fall of our Agricultural Societies.*

To the Editor of the Southern Agriculturist.

*Dear Sir,*—In a former communication, I attempted to enumerate some of the causes, which have led to the decline of our Agricultural Societies; and one of your Correspondents, in the June number of your Journal, has given some valuable hints as to the manner in which the defect might be remedied. I shall resume the subject of my former article, and in addition to what I there presented, adduce a few more of the causes, which strike me as injurious to the advancement of our Agricultural associations.

The primary obstacles, which every Society, political, civil, or scientific, has to encounter, is, the introduction of sentiments which are foreign to the design of their several and respective constitutions.

Truth is the aim of every man, and every association should be formed for the attainment and furtherance of some of its principles: and it may be laid down as an axiom, that the best mode of *attaining truth*, is by pursuing the shortest way which leads to it. Its path is a clear one—it has no crooks or turns—like a mathematical straight line, it is the shortest distance between any two

points. If, for instance, we institute a society for agricultural purposes, let us individually keep the object of our institution in view. Let us not mix it up with politics, or other subjects which must only tend to distract us from our path of useful pursuit. While we keep this in view, all will unite with pleasure and profit, because all *then* feel one object and one interest.

However, this is dwelling too long upon general propositions. I shall adhere to my promise, and introduce to your notice three very common characters, whose influence is of that kind, which frequently affects our Societies.

First,—is that venerable old gentleman, who, because he acquired his wealth and independence under the old style of cultivation, views the innovations of modern days, as the approaching fulfilment of an evil destiny, in the belief, that “whom the gods intend to destroy, they first make mad.” Far be it from me, to rifle the character of age, of its dignity and reverence; but with him I cannot be brought to think, that all modern inventions, are so many desecrating attempts upon the tombs of my ancestors—that there is nothing good or valuable, but what wears the frost of age. With him I am disposed to revere the paternal acre and the venerable mansion, and to hold them as prized memorials of an industrious and enlightened ancestry. But with him I can never think, that to convert the old family fish pond into a field of yellow grain, and the aged oak into implements of usefulness, are acts as rash and impious as that of Belshazzar’s, and like his, deserves to be rebuked by the mysterious hand of prophetic warning. He forgets that the age has made any advances since his day—does not recollect that the young having availed themselves of all the knowledge of the old, have improved upon it; and under such a delusion, if you show him, that he is behind the age by half a century, he sagely shakes his head, and with a chuckle repeats to you the old proverb about young folks thinking old folks to be fools, &c.

Second:—The opposite of this character, is the young gentleman of warm and sanguine temperament, educated in the school of modern science and discovery; his mind is deeply imbued with a spirit of speculative theory; and applying those inductions, which he has hastily drawn from his studies and crudely digested, to the prac-

tice of agriculture, he more often fails than succeeds; but with a perseverance honourable even in the path of error, he with slight changes, applies his theory again and again, until at length soured by repeated disappointments, he retires in disgust, and thus inflicts a more deadly blow upon the cause of liberal improvements, than he, who pertinaciously intrenches himself in the "good old customs." The tendency of such failures is either to drive the individual entirely from the pursuit of agriculture, or to induce him to resign it into the hands of others, while he betakes himself to the pleasures of the chase or the amusements of the fishing party. Now, the effect of these diversions, is to induce a distaste for higher and nobler enjoyments—to incapacitate the mind for more useful and intellectual engagements—to store the memory with nothing wherewith to beguile the tediousness of declining age, but the story of a fox-case, or the adventures of a shark. Besides this, such failures create a distrust and prejudice for every scheme of improvement, regardless of the claims by which it comes recommended. It may be recollected, for instance, when *marsh-mud* was first spoken of as a manure, it was, by some, instantly condemned. And why? Because it originated with a philosophic and scientific mind. It was regarded as a kind of colt-distemper which prevails among minds of such a cast, and to which the "good old folks were not subject." Thus it must be apparent that such a character as my young friend is equally prejudicial to the cause of agriculture, as that of my old.

The third and last—and I am proud to say, the far most numerous class, embrace those gentlemen, who with enlightened judgments, measure the importance of every subject according to its capability for doing good; who are neither hasty nor slow in awarding their opinions; who in acknowledging the claims of agriculture as a Science, view the principles of Chemistry and Philosophy as indispensable agents in an enlightened husbandry; who, while they are willing to profit by the lessons of experience, are not unmindful of the facilities and advantages of modern discoveries. To the usefulness of such men I am proud to bear testimony, and were it not violating the sacredness of private feelings and retirement, I could name such men as we should regard as benefactors in the agricultural world. We have, of late, been

so much accustomed to pour forth the libations of praise to such men as stand high in the distinctions of political life, that we seem to have forgotten the claims of private virtues and usefulness. We have acted as if we believed the true interests of our country, were to be found only in the hearts of such men as shone conspicuously in our political horizon; and as if the more retired and unpretending labours of the honest citizen had nothing to do in her prosperity. But so far from this being true, I feel no hesitation in saying, that the occasions which require great personal sacrifices and exertions are few, but that the humble duties, by which her interests may be advanced, are of frequent occurrence. He who plies his daily avocations with steady and unwearied diligence, and looks to the comforts and conveniences of his household, as the reward of his labours, certainly merits higher commendation than he who restlessly looks forward to some sudden emergency—some great occasion on which to build a reputation in doing what few have done, or not doing what others do.

COLLETON.

---

*On the Cotton and Pea Crop and Ploughing, &c.*

"Near M'Vintage P. O. Edgefield District, (S. C.) July 13, 1835.

To the Editor of the *Southern Agriculturist*.

*Mr. Editor*,—I am glad to find that efforts are making, through the medium of the *Southern Agriculturist*, to improve the mode of husbandry, that has been so long neglected in the middle and upper districts of this State. But I fear while the staple article keeps up at the late and present prices, it is almost a useless endeavour to convince our farming and planting brethren of their injudicious culture. The period, however, is not far distant, perhaps, when the accumulating growth of cotton, and every species of manufacture of which it is susceptible, will arrive at their full extent, and it will consequently decline in value. Until this time arrives, cotton will be the principal object of culture, regardless of comfort, interest being the main spring by which all human actions are governed; still, we ought not to be discouraged from promulgating our practical agricultural knowledge, in the hope, that it may produce some benefit to other planters and farmers. If my experience can aid in so



desirable an object, it will afford me the greatest pleasure, having myself derived much benefit from the practice of others, communicated through agricultural works, particularly that under your management. I perfectly agree with Mr. Pinckney, of Pendleton, in his plan for the restoration of worn out lands, with this exception, that in the section in which I am located, foreign grasses and clover will not succeed, the latter of the greatest importance. Rotation of crops is of the utmost consequence, and perhaps, there is no greater restorative to land, than the common field-pea, but only the peas should be gathered when planted in corn, leaving the vines and leaves to restore to the land, in part, what has been taken from it, for corn leaves nothing; the blades being stripped, and corn stalks, if ploughed in, the spring following are of little value as a manure.

When peas are intended for fodder, they should be planted in a separate piece of land, as they are a great exhauster when vines and all are taken off, it will require a little manure for a succeeding crop. This is the most valuable article for fodder in the Southern States; they are easy of culture, not very difficult to cure and preserve, and, if properly understood, every thing thrives thereon.

With regard to manuring, in this section of country, it can be done but to a limited extent from leaves, in consequence of the lands being so much cleared, and the range for stock so much reduced, little benefit can be obtained, for without stock to tread, and something to receive their dung and absorb their urine, it would be fruitless to attempt any thing but on a small scale. In the upper districts, these difficulties are obviated. It is beyond all doubt, that the application of manure in broad-cast is the best mode, next to this is in the drill form. The practice of applying it on each side of the plant, is injudicious, not only from the principle of economy, but the effects produced by it. When the lateral roots branch off in search of nourishment for the support of the plant, and perfecting its fruit, get beyond the influence of this peated manure, and reach that part of the ground from which every thing is taken and drawn up to the bed, receive a check, the plant as well as its product, must feel the effect. This will not be so much the case in placing it in the drill; and what is termed forcing of corn is certain to be pro-

duced in dry weather, by applying the manure about the stalk of the plants, and the advantage is lost. In these remarks, I have reference more particularly to corn, but it will apply to every species of culture.

The implements of husbandry, and their application, is next to be taken into view of no less importance. What our forefathers have done, appears to have been entailed upon many of our planting and farming friends, particularly the use of the Goffier or Shovel plough on all occasions. This plough is useful in its place, but to make what is termed a crop by it alone is out of the question. In breaking up old lands the Mould-board plough is the most efficient, throwing it up into beds early in the fall, at the distance intended to be planted, and previous to planting reversing the beds. Should it be tenacious sedge land, I would recommend running fire through it, and then breaking up cross-wise with long and sharp Bull-tongue ploughs, and then treated as above. In preparing land that has been the year previously planted, the beds should always be reversed, unless manure was put in them; running a water-furrow plough (a broad and long pointed shovel) in the alleys, and followed by a mould-board plough, returning the earth into the furrow made by the water-furrow plough, and so on, until the bed is made, leaving the bulk to be broken up by the water-furrow plough, this will give level beds designated by the water-furrow. When the time arrives for planting cotton, run a bull-tongue plough in the middle of the bed, to sow the seed in, and cover it with a board attached to the plough stock to where the plough-hoe is fixed, or a furrow may be run, the seeds sown in it, and then covered with a furrow on each side, leaving it until germination begins, and then knock it off with the board, this will destroy the young grass that is coming up, but care must be taken to have this done in proper time, in case of a succession of rainy weather.

When the cotton is sufficiently up, it should be cut out with a hoe, the distance intended for a stand, and when it has progressed so as to make it necessary to be ploughed a small bull-tongue plough should be run close to it, not only to cut out such plants as are not upon a line, but to cover the small grass among the cotton, which can be done, if any caution is used, without covering the young cotton. After which the half-shovel, or what we term

the wing-shovel should be used to fill up the furrow previously made by the bull-tongue, and throwing up sufficient earth preparatory to the first hoeing, leaving the spaces between the beds to be broken up afterwards, this will give great facility in the early part of the crop.

Should the seasons be such as to endanger the crop from the accumulation of grass, I would recommend running the mould-board plough with the bar next to the cotton, one furrow on each side of the beds, throwing from it; this will take much grass from the cotton, and will cover much more in the alleys. A few days after, the grass so covered will be killed or so much crippled, that a furrow may be returned to fill that which was previously made; as to the grass in the alleys, that can do but little injury before it can be controled. The indiscriminate application of the plough and hoe, particularly the former, is attended with the most injurious effects. Wet or dry, by many planters, they are in operation, when it must be obvious to every reflecting mind, that when the earth is highly saturated with moisture, and exposed to the influence of evaporation and the heat of the sun, is more destructive than years of proper culture. And when the earth is parched from drought, the same practice is pursued. Hence, from this cause do we frequently hear of bad crops, laying it altogether to the seasons, not bringing judgment into question. Another error which we commit, is the omission of task work, in which the lower country has a decided advantage. What stimulus is there to negroes to be put indiscriminately together to work row by row, from daylight to the going down of the sun? The most effective hands are put foremost, and those less so, to follow and keep pace with them, and when an exertion is made by the former, under the immediate eye of the overseer, the weaker hands become exhausted, and soon as ever the back of the overseer is turned, the strong hands slacken their pace, and reduce it down to the standard of the others, and then work at their leisure. Every negro, according to his ability, should have task-work allotted to him when it can be done, and it will be found that more work will be executed, and that with more cheerfulness, allowing a gain of a little time to the negro, which is great encouragement to him.

The land that I plant is not only rolling, but very much broken, and I have had, for years past, to exercise every

ingenuity I possess to retain the soil, adopting horizontal culture laid off by a level, leaving belts from eight to ten feet wide, at the distance of thirty yards and upwards apart, according to the land; and latterly have adopted horizontal ditches below these belts, in order that the belts should check the impetuosity of water in heavy rains and discharge it into the ditches, to preserve as much as possible the next cut, as it is termed, from washing. But, notwithstanding all these precautions, where there is any defect in leveling, the water will concentrate and pass over, producing gullies. To obviate, in a great measure, these difficulties, I have partially adopted and recommended to others, not to pursue the horizontal plan exactly, but to give an inclination of the beds to the ditches, or even gullies, if they have been previously made so as merely to drain off the water from the alleys of each bed without making any thing like a gully.

In conclusion, I would remark, that deep ploughing, and the earth well pulverized, are the only secure ways of managing broken and rolling lands, so that the excess of rains should be absorbed as much as possible. Shallow ploughing only prepares the soil to be washed away by the first rain that succeeds it.

Respectfully, your obedient servant

ROBERT WATTS.

---

*Colonel Pinckney's Spring and Forcing Pump.*

To the Editor of the Southern Agriculturist.

*Mr. Editor,*—In your number for July an account of Col. Pinckney's spring and forcing pump is given, and iron or wooden pipes recommended instead of the pipes of lead used by that gentleman. About the time of reading this account, I happened to meet with a description of one at the farms at Holkam, possessed by the well known Coke. In this a similar plan is said to be followed for leading the water from beneath the ground up into a trough, in the midst of a cattle yard, and it is said, that the water passes through *earthen pipes* manufactured on the spot by the farm servants. They can be easily imagined, made into moderate lengths and flanged at one end so as to admit the point of the next length. For very large volumes of water they might prove deficient in strength; but for small streams would probably prove healthier, and more economical than those of any other material.

RAMBLER.



*Rare and Valuable Seeds and Stingless Bees.*

WE introduce to our readers the promised letter of Henry Perrine, Esquire, Consul at Campeche. It will be remembered that in our last number, we acknowledged the receipt from this gentleman, of a hive of Stingless Bees, they have been committed to the care of one, whose public spirit will cause him to regard himself as the husbandman of the community in which he lives; he will second the patriotic efforts of the Consul at Campeche, in conferring upon us a gift so interesting. This has not been the first evidence of the liberal interest felt by Mr. Perrine, in promoting the introduction of valuable products from abroad; and if our motives were purely selfish, we still might very consistently wish, what we now offer in pure thankfulness, a renewal of his health, and of his public office in some other quarter of the globe.

"Consulate U. S. A. Campeche, June 18, 1835.

To the Editor of the Southern Agriculturist.

Sir,—Although on the eve of my return to the United States, yet as the schooner Carolina Brutus, now returning to Charleston, is the only vessel which, during eight years, has afforded a direct communication between this port and yours, I avail myself of the few minutes allowed me to send you a few products of this Peninsula.

I name first, a paper of the beans, which produce the root here, called Jicama (*Dolichus bulbosus*?) as the success of Mr. Skinner, in Baltimore, justifies the belief that in your latitude it will flourish and become a valuable addition to your horticultural, or even agricultural resources. Next you will find a paper of the four winged pods of another leguminous plant, which rapidly grows into very ornamental trees (*Piscidia Campechana*,) whose wood (here called Habi) is as highly prized for ship building in Campeche, as is the live oak in the United States, or the teak in the East-Indies: and has the much greater merit than both, inasmuch as he who plants the seed may profitably cut the timber. I also send a small quantity of nankin coloured, and of kidney shaped seed cotton, which will speak for themselves in a cotton growing country like South-Carolina. Last, and greatest in my estimation, are the samples of the *foliaceous fibres* of Yucatan and of Goazacoalcos, (the *coarse* called *Henequen*, and the *fine* called *Pita* in the ports of Mexico) and of the leaves of the Agave, and of the Bromelia, from

which they are extracted. Your own Elliott, in his Botany of South-Carolina, long since anticipated the cultivable value of the foliaceous fibres of your indigenous *Yucca filamentosa*. I have not time to give even an epitome of the relative advantages of the *Agave Henequen* and of the *Bromelia Pita*, for extensive cultivation in the most sterile districts of the South, the former in sunny plains and the latter in shady woods, where it absolutely usurps the place of the common worthless undergrowth. I still, however, persist in my conviction, that the production of *foliaceous fibres* in the most barren soils of the South, will be much more profitable than the cultivation of your present great staple of *capsular fibres* in the most fertile loams, and hope that during my travel after health this summer, I may make some active proselytes. By-the-bye, you must not mistake the present samples of the fibrous leaves to be good ones, as in truth, they are the refuse of a number collected two years ago, which have been tossed about in the dust.

While writing the above, an Indian has returned with the *Hive of Stingless Bees*, which I feared would not arrive in time for Capt. Kerrison, who is hurrying me to conclude this unpremeditated epistle.

Very respectfully, your obedient servant,

HENRY PERRINE.

The seeds mentioned, we will distribute among our friends who wish to attempt their cultivation. The *Piscidia Campechana*, we presume is the same as *P. Carthageniensis*, a variety of the Jamaica Dogwood, the generic name is derived from its power to intoxicate fish. It is said that the fibres of our *Yucca filamentosa*, are the strongest of any known plant. It is familiarly known as the silk root with which woollens are washed, but is not applied by us to any other use. We should suppose that it must surrender its pretensions as a fibrous plant of value, to the *Bromelia* sent by Mr. Perrine. The specimen of this, at our office, is well worth examination, and is by far the most interesting of the plants he mentions. His description of the locality in which it delights, will at once bring to mind, the extensive body of pine land in Georgia, which spreads from the sea-shore over half of the State, now infested with endless tracts of stunted palmetto. How can this have escaped the attention of Mr Spalding, of Sapello. His name is connected with the first culture of many of our staples, and this is a new opportunity of identifying him with the prosperity of Georgia.—*Ed. So. Agr.*

*On American Forest Trees.*

THE pleasures of perfect art, sometimes burthen with intolerable satiety the jaded taste, unhealthily developed by the fastidious cultivation of the old world. The European seeks eagerly the refreshment, nay, the renewal of his power to enjoy, in scenes which present the boldest contrasts to his habitual life. And while on this pursuit, the freshness, the vigour, the dim religious shadows, the untouched sanctity of American forests, not yet made to ring to the sturdy stroke of her backwoodsmen, never fails to impress deeply and durably the mind of the visitor, who comes sick of civilization. The emotions which stir us in their recesses, are passing out of our reach while we speak of them. It is already a rare delight even to us born as we are in a continent of forests, to enter into wide spread woodlands tenanted only by our red-men: we might seem extravagant in describing to those who have never entered the Indian land, the feelings with which the West is approached. It will be "an old man's story" to our children, and gives us now anticipated happiness.

Even after the boundless prodigality of our waste in the old settlements, now and then a noble relic of the original growth rears itself over our heads, and while we span with the eye the huge girth, trace the tall shaft till lost in spreading branches, and teem with recollections under its leafy shade, the senses and the imagination are filled with its image.

Who can resist the unreasoning belief, that the shelter of our forest was furnished for haunts to living beings? We traverse them with curious inspection, till their endless extent and their silence bring to the mind the conception of a universal sabbath, the signal of retirement and rest.

To love trees should be our national passion, as they give the characteristic features to our cherished country. And accordingly, the taste of every American when abroad, is pleased or revolted, in proportion to the presence or absence of trees in the landscape. But here, at home, no one would suspect, nor are we, ourselves, generally sensible, that they are essential to our habitual standard of the picturesque. We demand that the hills

and mountains of other countries should present outlines softened and rounded by trees, and look with indifference or disappointment, upon heath-covered hills, and splintered pinnacles piercing the clouds. Returning home, we wage war upon the *genius loci*, and desolate its haunts.

This passion to destroy, prevails so generally, that it is even a matter of astonishment to find an exception, and it is an unexpected pleasure to us to announce that the Massachusetts Agricultural Society, have awarded to Mr. William Clark, jun. of North Hampton, a premium for a plantation of locust trees; the posts of locust set in the ground, have been known to last upwards of half a century, its growth is rapid, it is prized in ship building, for which use the government price has been as high as seventy-five cents the cubic foot. The limbs are excellent for fuel. During its growth in Southern latitudes its shade is found favourable to grass. The bees delight to forage on its clustering blossoms, and all have inhaled their spicy perfume.

The mulberry too, has been planted, and instead of being kept down as a hedge, permitted to rise into a standard tree. Although its first use here, has hitherto been for feeding silk-worms, it is as well to remember that the wood is almost as durable as locust, but the trees do not continue sound in the heart at a great age. It is said that the counties in Connecticut, in which mulberry orchards are found before these were planted, yielded no grass even for the poorest pasturage, but since the extension of the silk growing farms, their lands have doubled in value for pasture, by the favourable influence of the mulberry in promoting the growth of grass under it. The seasoned wood of this tree is much sought for by mill-wrights for tree-nails and cogs; and mulberry posts have been sold in New-Haven at three dollars each.

The measures taken by the government to protect the live-oak on the coast of Florida, form the most extensive, but as far as we can learn, inefficient effort, to guard against the evil day, which the dearth of choice timber may bring upon the less provident portions of our country. But any attempts, whether well or ill conducted, to preserve these matchless forests, are to us subjects of gratulation. We would not forget the sensations with which we wandered beneath the giant arms of a noble



wood of live oaks, preserved on Cumberland Island, as a protection to the house at Dungenness. The hospitality of General Greene's family has made this spot, the frequent resort, as if it were on the edge of some populous city, instead of a remote estate in the South. And some of our readers will understand us, when we say; that we subdue the utterance of our emotions at the prospect from the top of that house, down upon the same wood of live oaks. At the first glance, the live oak tree tops for hundreds of acres, unmixed with any other kind of foliage, were a carpet of the deepest verdure, the green leaf lost to the eye in the green sea; beyond it the beach of the island, with the surf rolling and retreating, glittered like bright silver in the sun. Time was necessary to enable us to summon our senses, and trace out each tree as it stood diminished beneath us. Under the shelter of this wood, the pleasure grounds were spread like a map, and there hundreds of orange trees bent with rich fruit; to the East was the expanse of the ocean

" Where no shore,  
No promontary stops the sight  
Unbounded as it wanders;

And from its mutable surface, the eye seeks rest on the light-house at the south end of Cumberland; still the forest of live oaks is the chief glory of the scene, a hallowed recollection.

In the sheltered valleys under the Blue Ridge, the white oak trees lift their tall straight stems in perfect proportion, and adorned with the most appropriate foliage, in truth, as individual trees, they displayed so much grace and columnar grandeur, as to make us doubt whether when in leaf, even the live oak is to be preferred, except in masses.

On the Alleghany, where the mountain is almost upright, one may see the arbor vitæ (*Thuja occidentalis*) with a stem two or three feet in diameter, growing erect and spreading out its singular leaves and branches, like a huge fan on the side of the mountain.

And in the south-west, we have often stopped on our journey to lament over tulip trees, the like of which it was impossible to restore: while some specimen of darkness visible—some negro doubly deformed by his business—most ugly in his employment, made his puny strength mischievous by ringing round the stem.

The cultivation of forest trees, and especially American forest trees, is now the favourite mode of embellishment adopted by the wealthy in Great-Britain; and travellers say, that a knowledge of our trees, is an accomplishment which recommends a man, and establishes the readiest sympathy with many of the higher classes.

The following notice from Loudon's Gardener's Magazine, will give an idea of the extent of their arboriculture.

"*The new forest in Hampshire* consists altogether of '63,000 acres; 6,000 of which are well enclosed, and 'planted with oak timber trees, between rows of Scotch 'pines and sweet chesnut, as a protection from the des- 'tructive winds. The enclosures consist of from 100 'acres to 500 acres each, and are well fenced in from the 'deer and numerous cattle of the forest. As the young 'oaks grow into wood, the pine and chesnut trees are lop- 'ped and removed. We never witnessed a plantation, 'even on a small scale in a nursery, in a more healthy 'and growing state than are the young oaks in these en- 'closures. In the open part of the forest are numerous 'woods of full-grown timber trees; large quantities of 'which are occasionally cut down, the best being used or 'preserved as timber for the British navy, and the inferi- 'or timber sold for various purposes. The forest is under 'the management of Mr. Robert Turner." B.

---

#### *Grazing and Soiling—Grasses.*

[We copy from the Baltimore Farmer and Gardner of June 30th, the following Article.]

Messrs. Sinclair & Moore—

*Gentlemen*,—I have to acknowledge the receipt of your too flattering, but much respected letter of the 16th inst., and although I consider your senior partner more capable of answering the queries propounded than myself, yet as you have requested my opinion thereon, I cheerfully comply to the best of my judgment.

1st. Clover is suited to being grazed, and although there may be more loss than if cut for soiling, yet the ground is less deteriorated, and cattle will thrive better when running at large than if soiled; as an instance, they soon get tired on eating grass given daily to them, and when they *appear* to be satisfied, if turned into a pasture they will go to feeding heartily.

2d. Soiling I consider more economical than grazing, yet the latter is preferable as stated above.

3d. Lucerne is better adapted to soiling than common red clover; it will yield more green food, is an earlier grass, and can be cut more frequently than clover.

4th. Orchard grass, when young, makes excellent pasture, but cattle are not fond of it when grown strong or about six inches high, until which time it is better food than clover, but as the latter will last all summer, it is upon the whole a better pasture.

5th. Herds grass is well adapted to grazing.

6th and 7th. It is unquestionably judicious to sow clover with orchard grass, whether intended for hay or soiling, and the latter requires cutting quite as soon as the former, and with us is always ready for hay when in early blossom; if later, it becomes coarse and harsh for hay. Two bushels of orchard grass seed and two quarts of clover are proper for an acre; the former being very light, should be sown in a calm damp day, and each kind separately; the orchard grass should be cross sown, say one bushel each way, to make it vegetate more evenly.

8th. I do not consider that more seed is required when intended for grazing than for hay, but I would not graze the first year until a crop of hay had been taken off, and in one week after being mown, it will be good pasturage, and so continue until covered with snow; we generally mow the first week in June.

9th. I consider a mixture of orchard grass, herds grass, English grass, and red clover, best adapted for pasture in the State of Virginia.

Very respectfully, I am, gentlemen, your obd't. serv't.

HENRY THOMPSON.

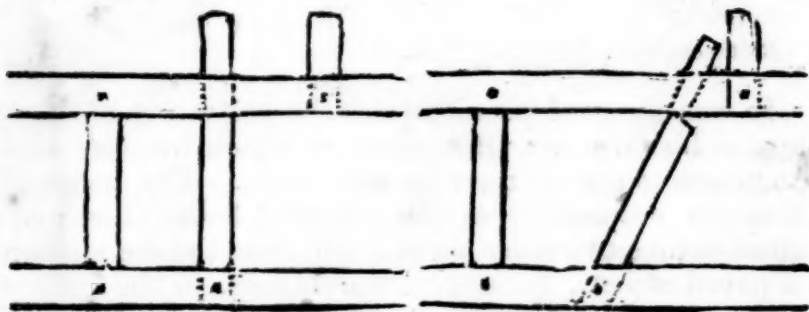
Baltimore, June 18th June, 1835.

It was our good fortune to visit the writer of the foregoing, at his farm near Baltimore, to which we were conducted as to one of their pattern farms. The hours of business despatched at the counting-house, the merchant retires two miles out of town, from the din and stir of paved streets, flanked by warehouses, to the quiet of pastures inclosed by thorn hedges, interspersed with clumps of trees, and crowned by the luxuries of a classic villa, so placed, as to command through vistas, arranged with art, views of the Chesapeake Bay, the forts and shipping of the Basin, and the "Monumental City," as the inhabitants like to hear it called. Adjacent to the mansion are the farm offices, and among them stables calculated for winters far more formidable than ours, but possessing some points worth imitating here.

The stalls are well littered with straw and leaves, and below the beds, the floors are sloped very gradually to drains, which save all that may trickle through, and conduct the liquid manure to stercoraries in the edge of the meadow, over which it is distributed at the proper season.

The stalls are 4 or 5 feet wide, the trough is low and divided from the stall by two rails of scantling; from the top scantling to the bottom, pass rounds or bars of wood,

except in the midst, where the occupant of the stall is secured by her head and neck. In the upper rail is a groove, within this groove the tenon at the upper end of the upright which confines one side of the cow's neck, plays freely; at the outer end of this groove or mortice, a foot long, a piece is made to fit the vacant space, turns in and out of the mortice upon a pin as its hinge, the upright turning upon a pin in the lower rail, falls back upon this piece, when it is raised out of the mortice, and the cow thrusts her head through to the trough, filled with provender on the other side of the rails. Now the attendant pushes with a stick or hay fork, the piece which carries with it the upright, and falls at length in the groove, where it is supported by a shoulder cut in the tenon of the upright; but why multiply words, no description will convey an idea of it, and here is a sketch to help it out.



The cow lies down or gets up with perfect comfort, but does not turn round till released the next day to pasture; and the whole is made of wood by any labourer who has once seen it.

Mr. Thompson's stock is small and is kept down to the size of his farm by sales of the increase, it is of the choicest English improved short horns, calculated for milk and labour; the colour a deep red and all red; their ribs leave the spine at such an angle as to make room for a large round barrel; the chest is deep, and the figure, in short, unexceptionable. The proprietor boasts much of their docile good temper.

We are under the impression that his stock was from that of Coke of Holkam, they certainly are of the same race, but as we speak from memory only, they may be confounded by us with the stock of the late Mr. Patterson, which we visited the same day, and which certainly did



come from Holkam, a present from Mr. Coke to Mr. Patterson, who brought them from London in one of his ships reserved exclusively for that voyage. The animals we saw at Mr. Patterson's were inferior to Mr. Thompson's, only in their keeping. Age and infirmity pressed heavily upon the old gentleman, and made his husbandry an unequal competition with his robust and active neighbour.

---

*An Address delivered before the Horticultural Society of Charleston, at the Anniversary Meeting, July 8th, 1835; by Dr. E. F. LEITNER.*

Mr. President and Gentlemen of the Horticultural Society,

THE objects, which claim the attention of our association are among the purest and most important of all human occupations; the cultivation of the soil tends not only to promote that competency, which is requisite to our individual support, but to inspire those dispositions and feelings, which are the source of intellectual enjoyment, and result in the production of literature and taste. Both ancient and modern times furnish us with instances, where the prosperity, and even refinement of a nation, has been chiefly raised upon the basis of success in agriculture. Behold the great republic of antiquity in its earliest and purest times—the greatest praise which could be given to an illustrious character, was that of being a judicious and industrious husbandman. Her Columella, Virgil, Varro and Pliny, shine brighter in her annals, than her Scipios, Anthony or Pompey. Cato, the censor, so celebrated as a statesman, as an orator and general, derived his highest and most durable honours, not from his military conquests, but from his excellent work on agriculture. It is not the military glory of a State, upon which national prosperity is founded, but the happiness of the people. How many countries have been sacrificed to the selfish passions and greedy ambition of their rulers, how many have been degraded, impoverished and desolated? Recollect what Greece and Asia Minor have been—and behold, what they are at this day.—Scarcely can they be recognized in their ruins, all else is lost with their agriculture. No region on the earth proves more powerfully the favourable influence, which this

department exerts on the people at large, than the very land, in which we live. To whom else does this extensive country, and especially the South, owe its prosperous commerce, than to the agricultural class? Destroy the blooming cotton and rice-fields of the South, the waving corn and splendid orchards of the North, the extensive prairies and savannas of the West, deprive them of their numerous flocks and herds, and you will dry up the very springs, from which riches flow, you will bring back barbarism with all its awful woes—such a state as existed, when the savage traversed the dreary forest, or launched his frail barque on the river or the lake—such a condition as the first settler was placed in, when he arrived on the woody shores, and lifted up his axe to let in air and light.

Agriculture consists, however, not merely in sowing and reaping; the modern yeoman, if he will keep pace with the enthusiastic spirit of his age, must consider it as a Science. The dignity, the pride, the interest of his profession require it. Industry and enterprise alone avail us little without intellectual improvements. These and not physical force raise a nation to honour and prosperity. The mere manual labourer who grasps his plough or spade instinctively, and is ignorant of the laws which govern the material world, has no other assurance for the success of the future, than the experience of the past, and in cases of emergency he will be like an isolated pillar, which cannot withstand the raging fury of the tempest. Chemistry, geognosy, the philosophy of botany and domestic economy, are to the agriculturist of the present day, what a correct chart is to the mariner, who is on the eve of embarking upon the bosom of the trackless ocean. They constitute what may be called the very essence of husbandry, the ground-work upon which an agricultural education has to be founded. They impart to us a substantial and accurate knowledge of the physiology of plants, and of the causes which in different climates, or in different soils, promote or retard their growth and product; they solve the agency of heat, light and water, they disclose to us the nature of the different soils, and impart to us a knowledge of the means, by which we may aid nature in her efforts to yield her generous products, for the comfort and happiness of all living creatures.

I believe there are many of those, whom I have the honour to address this evening, who are familiar with those powerful means of promoting the cause of agriculture and the interest of our country. And yet, what have we accomplished? Scarcely any thing. The agriculture of our State admits of great improvements. We have, indeed, formed Agricultural and Horticultural Societies, and that they do a great deal of good, no one denies, but where are our schools of geonics, where can we find the youth, who has a taste for rural botany and agricultural chemistry? Let any one look at the great majority of those, who come out of our schools, academies and colleges, and observe, how little attention they have been required to pay to them during the period of their college education. Chemistry is, perhaps, more fashionable, but if I am not greatly mistaken, it is only on account of its imposing experiments. This is a subject, Gentlemen, which deserves our warmest attention. We ought to engraft geonics upon collegiate instructions; to use the words of a gentleman, to whom the South is indebted for the most valuable improvements, I mean the Hon. Whitemarsh B. Seabrook; we ought to inspire our youth with a taste for rural botany and chemistry; as they are the base and ground-work of rural economy. It was the observation of Lord Bacon, one of the luminaries of modern ages, that knowledge is power. No axiom is more generally true in its individual, none more certainly true in its national application.— Knowledge is power in this department, no less than in politics; information is capital, and the means of valuable improvement. There are none, I believe, who can boast of equal success with the planters of the South, in the culture of rice and cotton; but are we justified, therefore, to say, that it admits of no improvement? Shall we slumber in inactivity, because we are apprized of the fact, that the best cotton raised in the world, is the Sea-Island cotton? Shall investigation cease, or be no longer regarded as worthy of continuance? Or shall we not rather acknowledge, that there is much left to improve; our pastures, our meadows, our live stock, the cultivation of our fruit trees, of our vine and olive, require imperiously an amendment.

Our vegetable and flower gardens might be greatly improved; there is certainly in most of them a want of a tasteful disposition and judicious selection of such plants,

as will insure us a regular succession of flowers and crops, for with a little attention to this subject, they might be always in bloom, and our tables be furnished the whole year with valuable products. The subject of rotation of crops was but little understood till very recently, and the sources and causes of disease of many of our staple articles to this day remain a mystery. Insects have depredated year after year on our most valuable fruit trees, and blighted our brightest prospects in this respect, and yet how little do we know about the habits of those destructive culprits; indeed, had it not been for the illustrious talents of a Say and Elliott, who lent their aid in the investigation, we would be almost entirely ignorant of the subject. It is only by a thorough acquaintance with their natural history, that we can hope, effectually, to lessen their number, or to restrain their ravages; it is only by an acquaintance with their genera and species, with their habits and metamorphoses, that we may guard against their depredations. We must be apprized of the season of the year, in which they commence their work of destruction. We must know, at what stage of their existence they invade us, before our practical experiments can be crowned with any possible success. But what useful hints can be expected from an individual, who does not know that a caterpillar changes into a chrysalis, and then into a butterfly, or from one who has made himself acquainted with the three terms bug, butterfly and beetle, and then feels contented? Let it not be supposed, that we give to the pursuits of natural history a factitious value, that we estimate too highly its importance to man. It is its great object, says the late Stephen Elliott, to acquire a comprehensive, complete and accurate knowledge of every form and substance, every structure and combination, every principle and power in the material world. It is the great aim of natural history, when considered as a Science, to group, and arrange all these objects and modifications of being on such principles, that the individuals of each group might be connected by common qualities, by composition, by structure, by habit, and as an almost necessary consequence by their properties and uses—so that when an intimate knowledge of one individual of each group is obtained, much knowledge may also be acquired of every kindred species, and every important discovery of new properties, in any of these divisions of



nature, may become, in this manner, a valuable conquest over an extensive series. These circumstances include all that is practically useful to man, and therefore, all that is most valuable in Science. They will unfold the essential qualities and forms of animals, of vegetables, of minerals, exhibit their characteristic peculiarities, display the great system of nature as far as it is to us accessible and intelligible, its simple but infinitely diversified principles, and its harmonious order. If we then acknowledge the value of these pursuits, it is surely desirable, that we should understand the principles on which the researches into nature, and our studies of natural history as a Science, ought to be conducted, and the essential results, to which our inquiries ought to be directed. It is not every one who has leisure, even if he may have an inclination to study this Science, or any of its branches in its minute details, but its general views, its fundamental principles, its comprehensive relations ought to be included in the investigation of every educated mind.

The next subject to which I would invite your attention, is the influence of our climate on vegetation. In every country we know the fundamental principles of agriculture, and of gardening, to be the same; but in practice, we find every plant possessing a particular habit and requiring an appropriate culture. A difference of climate, of temperature, a predominance of heat, of cold, of dryness, of moisture, all tend to produce new modes of culture, to require new objects of cultivation. It is especially in our own climate, which differs so much from that of more northern or transmarine regions, that their theories and rules cannot be applied advantageously to our practice, before they are essentially modified, and this makes it necessary for us to investigate its peculiarities, and the action, which is exerted by it on all the various operations of husbandry. The most important of these have been named already by J. Hamilton Couper, Esq. in his excellent essay on the rotation of crops; namely, the greater heat and longer duration of our summers, shorter and milder winters, and more strongly marked vicissitudes of wet and dry weather. To those I shall add, as one of its most peculiar features, the occasional severe frosts of our winter and spring months, the long and excessive droughts of the first part of our summers,

and the abundant and heavy rains which follow. Our own State experiences, perhaps, the most sudden changes from one temperature to another, as it forms the Northern extreme of the transitory districts, from a temperate to a more tropical region. This is particularly the case with our winter and spring months, as it is no rare occurrence, that we have then several seasons even in the same day. Great is the variety again, which we meet with in the different parts of even one State; thus the sea-board of South-Carolina and Georgia possess a climate partaking of the character of the temperate and equatorial regions, whilst the interior inclines more to the nature of the former on account of its higher elevation, its mountains, forests, &c. for these are all causes of variation of temperature, and must each be attended to, in accounting for the vegetation of any particular district. East-Florida is in this respect still more peculiar, as its Southern extremity assumes at once the peculiar features, or physiognomy, if I might say so, of the torrid zone. This change takes place at latitude 28, which may be considered, therefore, as the Southern extreme of the transitory districts. Immediately after having passed this line, every object around us tells us, that we have entered a tropical region.

The forests filled with the red, (*Rhizophora mangle*) the white, (*Laguncularia racemosa*) and the black mangrove, (*Avicennia tomentosa*) the buttonwood, (*Conocarpus erecta*),\* and several species of Palms. The Loblolly, (*Pinus taeda*) and yellow Pitch-pine, (*Pinus palustris*) the different species of Bay, (*Laurus*) and the Live Oak, are almost the only trees, which reach the Southern promontory, but on the Florida Keys, even those disappear, and give way to an entirely tropical vegetation, (with the only exception of the Pines.) Most of the productions of the torrid zone, as the Plantain, (*Musa sapientum*) the Banana, (*Musa paradisiaca*) the Cocoa-nut-tree, (*Cocos nucifera*) the Alligator or Avocado-pear, (*Persea gratissima*) the Mammee-tree, (*Mammea Americana*) the white and red Guava, (*Psidium pyrifera* and *pomifera*) the Sappodilla Plum, (*Achras Sapota*) the Pine Apple, (*Bromelia Ananas*) the Cotton-tree, (*Gossypium arboreum*) the Cochenille-cactus, (*Opuntia coccinellifera*) and a host of other valua-

\* The Florida buttonwood must be distinguished from the one growing with us, which is the *cephalanthus occidentalis*; one belongs to the natural family *Combretaceae*, the other to the *Cinchonaceae*.

ble exotics have been found to succeed as well in that region, as in their own native soil; nor is that region favoured less with luscious productions of its own. The Sea Side-Grape, (*Coccoloba uvifera*) the Icaco Plum, (*Chrysobalanus Icaco*) the Star apple or Saffran-tree, (*Chrysophyllum Cainito*) the Papaw, (*Carica Papaya*) and the colossal Fig-tree, (*Ficus Americana*) are scarcely less luxuriant, than on the islands of the Antillan ocean, where they reach their summit of perfection. From these views it follows, that the transitory districts are comprised between latitude 28 and 32, with Carolina on one extreme, and Tampa Bay on the other, and my remarks on the influence of our climate on vegetation, will be confined, therefore, to those portions of our country. Every one of you may conceive, that climates alike the one under consideration, must have advantages and disadvantages. The warm summers and short and mild winters of our maritime districts, will enable us to raise in the greatest perfection rice, cotton, indigo, tobacco, tea, sweet potatoes, ground nuts, sugar cane, Indian and Guinea corn,—whilst the modified heat of our interior permits us the profitable cultivation of Irish potatoes, peas, oats, barley, rye, hemp and flax, and in our mountainous districts, that of wheat and clover. If to these be added the vine, peach, fig, pear, apple, quince, cherry, plum, and pomegranate, the cork and camphor trees, the white and Chinese mulberry, the Arracacha, (*Conium arracacha*) and *Oxalis crenata*, to which the various localities of our climate are adapted, we must acknowledge, that Nature has been very liberal to the South in the distribution of her gifts, and we must admit at once, that with a judicious system of husbandry, we might gain a superiority over almost any portion of the Union.

We cannot complain of the unfitness of our climate for esculent roots and vegetables, as our carrots, turnips, rutabaga, cabbage, spinach, salad, green peas, &c. can be had in the greatest perfection during the whole winter and spring, and I have the authority of one well experienced in these matters to say, that many of them could be raised the whole year round, provided the different varieties of each species, suited to the seasons, are sown in rotation, and we choose a dry soil in winter and a moist one in summer. Of melons especially, we can exhibit as great a variety, and as finely flavoured, as any climate,

with which we are acquainted. Our gardens also might rank among the most beautiful in the Union, if more attention would be paid to them, for we have decidedly the advantage over the North and Europe in this respect, as many of the most beautiful productions of the tropics, which there have to be raised with great care and expense in hot-houses, flourish with us in the open ground.

But on the other hand, the great vicissitudes of wet and dry weather, the long and excessive droughts, and abundant rains which follow them, and particularly the occasional and sudden severe frosts of our winters and springs, will prevent the introduction of many valuable exotics, that would otherwise add greatly to the resources of our country.

The orange, the lemon, the lime, and the laurel, will never be cultivated with success in this climate. Under an Italian sky they will flourish without a shelter, but in our fickle climate, although twelve degrees more to the South, they suffer almost annually from the inroad of cold. Alas! the last winter has almost annihilated them—most of them are utterly destroyed; the remainder more or less injured, and our beautiful myrtles and valuable fig-trees have shared the same sad fate.

(To be Concluded in our next.)

---

*Query—What insects infest Rice?*

*Mr. Editor,*—Much useful information has been conveyed to your readers upon the cultivation of rice, but every body takes it for granted, that the insects which infest the plant are sufficiently known in their ravages. To me it seems probable that some advantage may be derived from a classification of vermin, which injure or destroy the rice-plant in the different stages of its growth. I can find no such thing in books, and have been as unsuccessful in drawing from conversation any intelligent account of the different enemies to be encountered by the rice-planter. Permit me through you to request from some gentleman, who may possess the knowledge I want, a list of these insects, their habits, and the remedies adopted by experienced cultivators for each. X.

---



## PART II.

### SELECTIONS.

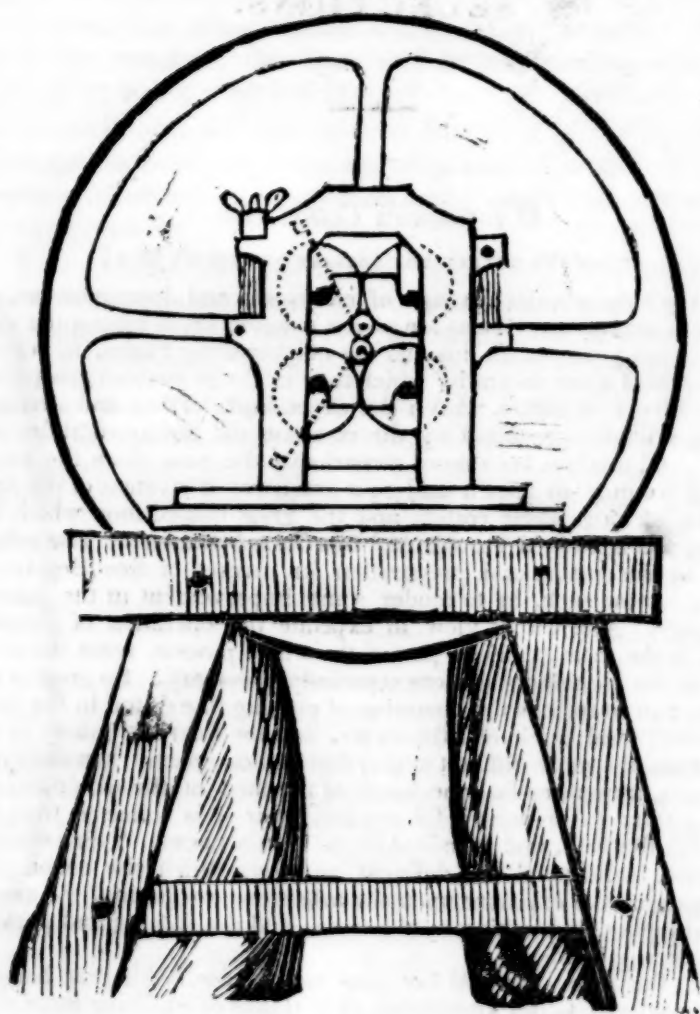
---

#### *Whittemore's Cotton Gin.*

[FROM THE CHARLESTON COURIER OF JUNE 13, 1835.]

THIS is emphatically an age of enterprise and improvement, as well as of invention. It has long been a desideratum among the long staple cotton planters, in this and the neighbouring States, to possess themselves of some means by which they might be enabled to separate the seed from the cotton, with a less expenditure of time and strength, than is ordinarily required by the common old fashioned roller foot gins. And this has been more remarkably the case since the discovery, if we may so speak, and now extensive cultivation of the finer qualities of long staple cotton, and the great competition which has thereby been excited among our Sea-Island planters. The refinement in the culture and preparation for market, of fine Sea-Island cotton, is now such, as to render some improvement in the process necessary. And with a view to expedite the operation of ginning, which is the most laborious part of the whole process, some improvement in the machinery is more especially necessary. So great is the labour, and so tedious the operation of ginning fine cotton in the common way, (and the longer the staple, and the finer the quality of the cotton, the more difficult to gin) that in those years when full crops are made, it requires full one-fourth of the time of the whole force of a plantation to prepare it for market, after it is collected from the plants in the field, and deposited in the cotton-house. This estimate, of course, includes all the different processes which the cotton goes through, viz. the exposure upon the arbour before ginning, the assorting, whipping, and moting by the weak, and the ginning and packing by the strong hands.

With the most approved foot gins now in use, with iron balance wheels, no one, to our knowledge, ever thinks of requiring more than thirty pounds a day, as a task for a negro, even cotton of a kind the easiest to gin, the seeds of which are neither tufted nor coated. With the old fashioned gin, (the primitive article) with wooden balance wheels, only twenty-five pounds are required; and some of our Sea-Island cotton planters, who cultivate that species of cotton, with the tufted seed, (the culture of which has now become very general) and who are very particular in putting up their cotton for market, gin much less to the hand, per diem: and it is understood that some at least, if



not all those, who now plant the *coated* seed, exact but fifteen pounds a day of their ginners; and we were informed by one highly respectable planter, that in some cases, scarcely half that could be obtained; so that the planter who makes his fifty or hundred bales of fine Sea-Island cotton per annum, finds the mere ginning of his crop not only a laborious, but a tedious process.

From hence it will appear that the time of all the strongest and best hands upon a cotton plantation, which might be so profitably employed during the winter season, in manuring, fencing, ditching, and listing the lands for another crop, is occupied for about three months in the year, in ginning out the crop of the last season. While, therefore, some improvement in this department seems so highly and almost essentially necessary, it is not surprising that the attention of agriculturists and machinists should have been directed to an object so important.

The mechanical arts have often been put in requisition—many and various have been the attempts to supply the deficiency, but nothing (unless it may be found in the invention of Mr. Whittemore) has hitherto been discovered fully to answer the object, aim, and end of the inventor, and to fulfil the wants and wishes of the planter.

The machine patented some years since by Evans, of St. Marys, in Georgia, was thought for a time, to be a very useful invention, and while the common and coarse kinds of cotton only were cultivated, answered a tolerable purpose; but now since the finer qualities are so much in vogue, the machine, among us at least, has fallen entirely into disuse, because it was thought to injure the staple, and of course affect the sale.

Then followed several others, among which were those of Col. Reed, of Marshfield, in Mass. . He constructed several different kinds of machines, some of which were very ingenious, of superior workmanship, but too complicated and expensive for our purpose.

Among others, we will mention those of Birnie, Simpson, and Nicholson, exhibiting much ingenuity and various degrees of merit, but none of them exactly the desideratum required.

The next and last which we shall notice, is the invention of Mr. Whittemore, now exhibiting in this city. Mr. Whittemore has spent much time and money in the prosecution of this subject, and has been indefatigable in his efforts to perfect a machine capable of performing all that is demanded by the long staple planter. We say long staple planter, because it is well known that Whitney's patent saw gin is the very perfection of machinery for green seed cotton, and supplies all that can be desired by the short staple planter.

Mr. Whittemore has three times visited the South in reference to the wants of this community—has constructed several machines—has altered, amended and improved them according to the suggestions of his friends, the agriculturists, until he has, as he believes, produced a machine for ginning fine sea-island cotton, superior to any thing of the kind ever before invented, and one capable of no further improvement.

Except the old foot gin in common use, Mr. Whittemore's is the most simple in its construction, of any gin hitherto offered for our consideration, and on that account, extremely well adapted to the use of negroes. It is made of the most durable materials, being principally of cast steel. It is provided with friction wheels, which make it run in the easiest possible manner. It has but one pair of rollers, one of

which is cast steel, the other Northern hickory, nine inches in length, and an inch and one-sixteenth in thickness, between the four plates by which they are isolated. Near one end of each roller are little cogs, which work together, and are nicely adapted to each other. Upon one end of the cast steel roller is placed an iron balance wheel, secured by a nut, for the purpose of regulating the motion; and upon the other, two shall cast iron band wheels, which are intended to be used when the machine is propelled by animal power; and a crank and treadle are attached when propelled by manual, or more properly speaking, pedal power. Above and below each roller are plates of sheet iron well fitted, and so nearly in contact, as completely to prevent the cotton from winding round them. Plates of iron are also attached to the sides, to prevent the cotton from being soiled and wasted, as in the common gin, from the gudgeon grease, and in this from the oil of the friction wheels. The rollers are turned in a turner's lathe, and the lower, or steel one, slightly fluted or reeded, and their adaptation to each other regulated by a pair of thumb screws. Should the gin at any time be clogged by the accidental introduction of a foreign substance, or should the upper roller require to be renewed, or removed for any other purpose, this can instantly be done by a very ingenious hinge-like contrivance, which can be thrown open by one or two turns of the screws. The whole is placed in a frame similar to that of an ordinary gin, with a bag upon one side to receive the cotton, and another upon the other side to receive the seed, through a wire grate. It is altogether an admirable piece of workmanship, seems exceedingly well calculated for durability, and does credit to the skill and ingenuity of the artist.

The machinery connected with the propelling power, consists of an ordinary cylindrical drum, which runs upon friction wheels, and a compact apparatus in a room below, similar to that sometimes used in propelling boats. The animal is without the powder of locomotion, so far, at least, as his body is concerned, but propels the machinery by his feet, somewhat upon the tread-mill principle; more analogous, however, to the propulsion of a boat or raft by means of a setting pole.

This kind of gear seems well adapted to situations like that in which Mr. Whittemore is now making an exhibition of his gins, viz. where there is a want of room.

We object, however, to this mode of propelling cotton gins, for the following reasons: 1st. Because, in the country, where cotton gins are generally used, there is always sufficient room for any kind of propelling power, and another, in our opinion, better adapted, might be employed. 2d. Because in this, by the very apparatus itself, the friction appears to be greater than in some other modes of propulsion. In addition to which, the horse has to sustain his own weight, which materially increases the friction. 3d. Because this apparatus admits of the use of but a single animal *in any case*, and that of the horse kind only. 4th. Because this mode of applying the power, in order to gain any thing by it, would generally (though not necessarily) require the gins to be placed in the second story of a building—an inconvenience which would ordinarily more than counterbalance any advantage to be derived from the compact form of the apparatus.

We think, as far as our observation and theory will bear us out, that we should prefer the old horizontal cog wheel and trundle. 1st. Because we think, by the adaptation of animal power to this kind of gear, a given number of cotton gins might be propelled with greater ease by



the same animal power. 2d. Because by this circular locomotive power, one or more animals might be used, according to the circumstances of each individual case. 3d. Because the horizontal wheel admits of the application of ox as well as horse power.

We object also to the new arrangement of the treadle, in reference to the propulsion of the machine by pedal power. Although much simplified, we doubt whether the alteration can be regarded as an improvement. By the present arrangement, the labour of the individual must necessarily be performed principally by the right of foot, whereas, upon the old plan, the feet can be employed alternately, and the left with as much facility as the right. We think, therefore, that we should prefer the old fashioned double gear, and that further experience will bear us out in the conclusion. By attaching a crank to the end of the steel roller, upon the outside of the balance wheel, the double gear may easily be applied by those who prefer it.

As to the *style* and *manner* in which Mr. Whittemore's gins perform the operation, there is no doubt, there can be no doubt, but every honest judge, and every candid cotton buyer, will readily admit, that they deliver the cotton uninjured in its staple. That *fine* cotton, when passed through the rollers in a proper state, presents a beautiful, crimped, and silky appearance, and that they will pronounce the operation in all respects perfect and complete, so far at least as the cotton is concerned.

It now seems to inquire, how far this beautiful piece of mechanism, is likely to prove a labour saving machine.

We had the pleasure of witnessing an experiment upon three of Mr. Whittemore's gins, a few days since. The experiment was made with a view to test their speed, and lasted one hour. In other words, it was made with a view to ascertain what they were capable of performing in a given time. Three raw country negroes, who had never seen one of them before, were introduced, and requested to operate as nearly as possible in the manner they were accustomed to do at home, upon the foot gin, and to supply the cotton no faster than if the experiment was to continue all day; or rather, to work as if they were performing an ordinary day's work. This injunction they readily obeyed, and worked as negroes generally do when at *job work*. Negroes thus employed, that is, working by time, it is well known move much more tardily than when tasked.

The horse too, underneath, whose gear was neither easy nor convenient, moved at a step most agreeable to himself, as the fellow who was employed to drive him, was found asleep at his post, near the close of the experiment.

The result of the trial shew, that one man had ginned 5lbs. 14ozs., another 5lbs. 4ozs. and the third, 5lbs. 2ozs. making 16lbs. 4ozs., averaging about 5lbs. 7ozs.; which produced the extraordinary quantity of one bushel of mixed seed, consisting of the little black, the tufted at one end, the tufted at both ends, the green and white coated.\* It is estimated that 8lbs. of good Sea-Island cotton, ordinarily produces one peck of seed. The great disproportion between the cotton and the seed, in this case, very much retarded the operation; the rollers being not only constantly occupied, but choked up with the seed, so that they could not, of course, be fed as rapidly as if the proportions had been different. A different cotton, *ceteris paribus*, would have shown

\* Mr. Whittemore has himself ginned 6lbs. in a single hour, and 1 and a half lbs. in ten minutes.

a very different result. The object, however, was not to see how much *could* be done, but rather what ordinarily would be done. Had the velocity been greater, (and this might easily have been increased,) it is probable the quantity of cotton ginned during the hour, might have been somewhat more. The conclusion, therefore, is, that the same ginners, when more accustomed to the apparatus, would, with the same kind of cotton, easily gin six pounds in an hour, and continue the operation through the day, and with a different cotton, much more. The velocity with which the gins were run in the experiment under consideration, was not materially greater than that with which the common foot gins are frequently propelled by strong and active operators. And there can be no doubt, judging from common observation, that a good ginner, by the mere use of the treadle, would easily gin five pounds an hour. With the common foot gins, expert ginners usually gin about four pounds an hour. But Mr. Whittemore's gins, having friction wheels and little cogs nicely adapted to the rollers, run infinitely easier than any gin heretofore constructed; and if they do not gin a great deal faster, they certainly gin abundantly easier than the common foot gins, so that when propelled by pedal power, there would at least be a great saving of strength—weak hands, as well as strong, might with perfect convenience and propriety be employed as operatives with these gins. And it is probable that *women* will be able to gin the ordinary task, with almost as much ease, as they could actively devote the same number of hours to the old fashioned spinning wheel, which is propelled much in the same way. And there may of course, be the same saving of strength in the application of animal power. One good horse, with a light and suitable gear, would no doubt drive as many of Mr. Whittemore's gins, as two horses could of the common gins.

At the expiration of the hour which was devoted the other day to test the performance of the new machines, three other ginners, in addition to the three before employed, were put on for some time, and it was found even with Mr. Whittemore's present gear, that the horse propelled six gins without any apparent difficulty. Some have thought that twelve or fifteen might be driven by one horse, and others, twenty or more. It is our opinion, however, that with the most approved gear, one good horse or mule would not be able to propel more than six of them all day, in ginning the tufted or coated seed cotton. The planter who requires more than that number, would find it necessary to make provision for two or more horses, mules, or oxen, or for the application of water or steam power. A single horse moves twelve of them with facility, *without* the *common*.

If it is made an objection to these gins, that they do not gin fast enough, a question will arise, whether it is possible for any gin to be constructed which will gin faster, and gin the cotton as well as it is now generally required to be, by our very particular and best Sea-Island planters. At the ordinary and easy gate of a horse, these gins perform 250 revolutions in a minute. This is about the velocity with which common foot gins are usually driven by active, ambitious negroes. And if each were continued without interruption, would produce six pounds an hour. But we have said there would be a difference of one pound an hour between the two modes of operating with Mr. Whittemore's gins, and two pounds between his and the common gins; this would arise, not so much from the ordinary interruption of the latter, as from the necessity of stopping occasionally to

rest, or as the saying is, to get breath. Mr. Whittemore's gins, when propelled by horse power, perform 265 revolutions in a minute if the step of the horse is quickened a little, and if urged to a rapid step, 285.

We are aware that the common gin, when propelled by sufficient animal power, is capable of ginning nine or ten pounds per hour; and we are quite sure that this amount could much more easily be obtained by Mr. Whittemore's gin. But we very much question whether more than 250 revolutions in a minute are consistent with good ginning in any case, unless it be cotton, the seed of which is neither tufted or coated. If the number of revolutions are materially increased, the seeds are liable to be mashed, which is a serious evil, inasmuch as they not only stain the cotton, but give a great deal of extra trouble in moting, and occasion the cotton to be too much handled in removing them; and where there are no friction wheels the machinery becomes heated.

With a view to more rapid ginning, various expedients have been resorted to, and numerous experiments have been tried. To increase the diameter of the rollers would unquestionably facilitate the process, but then it is found to increase the liability to mash the seed—rollers an inch and a sixteenth in diameter are as large as are admissable. To increase the length of the rollers would also expedite the operation, (provided they could be uniformly fed from one plate to the other.) but then it is found if their length is increased beyond nine inches *between the plates*, (such rollers being in their whole length upwards of thirteen inches) the wooden roller would be liable to spring, and if both were made of steel, they would be liable to cut the cotton, and of course injure its staple. Col. Reed to make one of his gins, as much as possible, a labour saving machine, constructed it with an artificial feeder (somewhat upon the principle of Evans' gin,) the object of which was to supply the place of a pair of hands. The attempt, however ingenious, either failed, or was not properly tested.

From the foregoing facts and observations, and from the further consideration of the subject, the following deductions may be made:—1st. That a single pair of rollers, of a given length and diameter, can only gin a certain amount in a given time, and perform the operation in a complete and perfect manner. It is immaterial what the nature of the power applied may be, provided there is enough of it, the result must necessarily be the same. 2d. That to a certain extent, the rapidity with which a pair of rollers will gin cotton, is in the ratio of their diameter; but if their diameter is increased beyond an inch and a sixteenth, they are not only liable, but will frequently break the seed, and therefore cannot be used. It follows then as a corollary, 3d. That in order to increase the expedition of the operation of ginning cotton, the number of rollers must be multiplied or their length increased; or, 4th. Some means must be devised for feeding the rollers, by the substitution of machinery for human hands.

Mr. Whittemore's gin independently of the propelling power, is in our opinion, the most complete and perfect piece of machinery which has ever been contrived for the specific purpose of separating the seed from Long Staple cotton. And whether any thing will ever be invented which shall more efficiently fulfil the wants and wishes of the planter, it is impossible to say. We are aware this is an age of ambition and enterprise, as well as of refinement, and one fruitful in expedient—it is possible, therefore, that some one may yet improve

upon Mr. Whittemore's gin, or haply he may refine upon his own. There is no telling what the ingenuity of man may effect.

Having already extended our observations somewhat beyond our original intention, although not beyond what we think the occasion justifies and requires, we will now close what we have to say on this subject, by submitting the following queries:

1st. Query,—Whether longer rollers clamped in the middle, might not be advantageously employed, even though the friction might be thereby a little increased? It seems to us, that an active operative might supply a single pair of rollers, of more than nine inches in length, and that in this way greater expedition in the process of ginning cotton might be obtained. Or,

2d. Query,—Whether a gin might not be constructed with two or more pair of rollers, capable of being fed by a single smart individual. Such a thing will appear feasible on a little reflection, although there may not be *prima facie* evidence of its practicability. J. B. W.

*Note.*—We understand that Mr. Whittemore has been so far successful in his enterprise, as not only to dispose of those machines which he had here, and which are now scattered over the country from Carolina to Florida, but has met with sufficient encouragement to induce him to return to the North to get another supply of his improved gins, which are expected out in time for the crop of the present season.—*Ed. So. Agr.*

### *Extract of a Comparative View of the Agriculture of Virginia and the Northern States.*

[FROM THE FARMER'S REGISTER.]

I TRUST you will not misunderstand me as being disposed to censure your correspondent in any particular. He is evidently a very intelligent person, and I doubt not, writes with perfect candor. Indeed I should not have thought of mentioning to you any difference between his opinions and mine, if mine had not been different from those of many of your correspondents in regard to the superiority of the agriculture of the Northern States over ours. I have more than once gone over the usual track of travellers in New-England, New-York, (except its rich western country,) Jersey, and Pennsylvania, and have long been of opinion (perhaps erroneously) that except from the farmers, generally Dutch, on the rich lands of Pennsylvania, we have little to learn at the North in the management of our usual crops. I have seen a great deal of as good ploughing in Virginia as I have ever seen at the North, and I think we can fairly compete with them in the whole management of our grain crops. Still I freely admit that with us there is great room for improvement.

Our middle country, notwithstanding some slight indications to the contrary recorded in your Register, I fear is generally destitute of marl. This range of country commonly rests on granite or other rock that I believe geologists denominate primitive, and I understand that marls do not belong to this formation. I believe that limestone has not been found in this district, except a small stratum that runs through the country about twenty-five miles from the Blue Ridge, and



nearly in the same direction. However, the soil of the middle country being generally stiffer than that of the lower country, is better suited to clover, and much may be done towards the improvement of this region by crops of clover, aided by gypsum, with animal and vegetable manures. A practice (whether a new one or not, I cannot say,) is now gaining ground in a part of it, probably not elsewhere, of top-dressing wheat, as well after, as at the time of seeding, with the farm-pen and stable manure; and I am assured that clover seeded on it in the spring, even upon thin land, seldom fails to turn out a heavy crop. Still whatever plan of improving on our less fertile lands is adopted, I am fully persuaded that a rapid succession of exhausting crops will soon return them to their original state, or reduce them still lower, unless they are kept up by liberal supplies of manure.

Having already advanced the opinion that our agriculture, so far as it relates to the management of our usual crops, will bear a comparison with that of the Northern States in general, I ought, perhaps to advert to one point of comparison in which the agriculture of the New-England States, a great part of the other Northern States, and of our mountain country, has the advantage of ours in the middle and lower country. The climate of those regions being cooler and more favourable to the growth of herbage than ours, and a great proportion of their soil being very hilly, or encumbered with stones, it is less suited to the plough. It is a natural and almost necessary consequence, that pastures and meadows should occupy a much larger portion of their land than of ours—that they should have much larger stocks of cattle—and a much smaller proportion of their soil being under the plough, they are able to manure it much more heavily than we can possibly do. In New-England, we seldom see a field of corn that is not highly manured: our very extensive fields get little, and much the larger part no manure at all. Their crops, of course, ought to be much heavier than ours. This difference then, between their system of agriculture and ours, seems to be mainly owing to natural causes, that are, in a great measure, beyond our control. Both our climate and soil being better suited to the plough than to pasture, our course of husbandry is, I am afraid, necessarily an exhausting one; and though we may countervail this tendency in some degree, I have never heard of any system of management, that in my opinion, seemed likely to do it effectually. The plan that is most generally approved, is to keep the arable lands that are at rest, free from the tooth and hoof of stock; and as all our cleared lands are arable, to have as small a number of sheep and cattle as possible—and that small number is generally deemed injurious to the soil. I am persuaded that our arable lands, during the short periods of rest that are allowed them, will be better able to bear a new succession of scourging crop if the natural grasses with which they clothe themselves, or the clover that is sown on them, are suffered to grow and decay without being fed off. But I believe none but our most fertile lands can be improved, or even kept in heart, by this course of husbandry, and that the less productive lands can only be improved under such management by manuring: and how is manure to be obtained without stocks of cattle? It may be urged that straw, corn-stalks, leaves, &c. will furnish as large a supply of manure, if spread on the ground, without having been used as litter or food for cattle. This is contrary to general opinion in England, and the other well cultivated countries in Europe; and I think it will be admitted, that

vegetable substances are more speedily brought into a fit condition for manures, by being trampled and fed on by cattle, than if left to natural decay. It seems equally clear, that animal manures are much stronger than vegetable. Inclining as I do to these opinions, I am disposed to think, that in avoiding, as far as is practicable, the pasturage of cattle on arable lands that are under cultivation, during the short periods that they are at rest, it would be a good practice to lay off a part of the cleared land of a plantation for a standing pasture, selecting generally that portion that is at least suited for grain crops, and to keep on it as large a stock of cattle as it will maintain during the season of pasturage, and as can be provided with forage from the plantation for the rest of the year. It is hardly necessary to add, that while the horses and mules are well littered, and well fed in stables, the cattle ought to be treated in the same way, in well sheltered pens, either permanent or moveable, as is thought most convenient, but so situated that the liquid manure cannot run off and be lost.

With regard to the proportion of a plantation to be laid off for a standing pasture, each case must depend on its own circumstances; but I would not venture to recommend as a general practice, any great or sudden change, that would very much reduce the annual vendible products of the plantation. Though the ultimate object of agriculture, like all other pursuits of industry, is profit, which comprehends the improvement, and of course the increase in value of our land, most of us rely on the annual products for our support.

If this were written for publication, and should be inserted in your Register, I have little doubt that I should subject myself to the imputation of preaching heretical doctrines, in recommending an increased stock of cattle, and the high and most respectable authority of Col. Taylor would be quoted against me. Perhaps in defending myself, I might rely on the ancient adage; "*Amicus Plato, &c.*;" but I think there would be no occasion for it. In the main, I agree with him, that arable land, when at rest in the course of crops, should not be pastured closely, if at all, and only recommend, under circumstances, such a stock of cattle to be kept in standing pasture, as will be nearly, or quite sufficient to consume the herbage of the plantation, and improve the quality, as well as increase the quantity of manure.

In the application of manures, I think some of our good farmers, in other respects, have much to learn. I have seen the bulk of the manure, on well cultivated plantations, applied liberally to galls, to remove an "eye sore," and to the thinnest soil of a field, to bring it on an equality with the more fertile part; though that too wanted manure to raise it to the proper standard of fertility.

It is a very general opinion, in which I heartily concur, that wheat husbandry cannot be conducted to advantage, unless clover is grown as a preparation for wheat, and a heavy crop of wheat can hardly be expected; except on rich land, unless it is preceded by a good crop of clover. But a small proportion of our land is strong enough to bring good crops of clover without the aid of manure, and I think it would be much better management, when there is not manure enough for a whole field to be seeded with wheat followed by clover, to apply it in sufficient quantities to a part of the field, and that not the worst, than to give a very light dressing to the whole field, which would only give a light scattering crop of clover. In the former case, a part of the land is at once brought to the proper point of fertility, and the residue in its turn may be treated in the same way. Whether the bulk

of the manure should be applied to the corn crop preceding wheat, spread before the wheat furrow, or applied as a top dressing to the wheat, the manure will produce its effect in either way; but from what I have seen and heard, I am satisfied that a top dressing, at or after the time of sowing wheat, will insure a good crop of clover on lands that otherwise would not bring enough to deserve the name of a crop.

In different accounts that I have seen of Scotch husbandry, it is stated that the arable lands in that country having been generally much exhausted, a system of husbandry called, I think, the "in and out-field," was introduced. The in-field lots next the farm buildings, were heavily manured, and thrown into a separate rotation of crops. The out-field lands were occasionally cultivated for such crops as they could get with little or no manure. By degrees, with the aid of heavy crops of clover and increased quantities of manure, the farmers were enabled to extend their in-field lands, and now a great part of the arable lands in the low lands of Scotland are cultivated on the in-field system. A practice like this, I am told, has been followed in some parts of the Northern States, and with like success. I understand too, that some of our most successful tobacco planters have laid off lots which they cultivate in a rotation of clover, wheat and tobacco, to great advantage.

I observe that for some time past, a controversy has been going on in your Register, with regard to the proper rotation of crops.—This is one of those subjects on which "much may be said on both sides," and very judicious observations have been made by the advocates of opposite opinions. It must be admitted, that this is a subject of importance to our husbandry, but whether the three, four, or five-shift system is followed, there may be very bad or very good management with either rotation. On those plantations where wheat is a principal crop, if good crops of clover can be obtained, and a plentiful supply of manure furnished, good crops can be made on either system; though according to circumstances, one system may be preferable to another. Our kitchen gardens are constantly cultivated in a succession of crops, all more or less exhausting; but with sufficient supplies of manure, their fertility is kept up—without them, the soil would soon be worn out.

I cannot conclude this long letter, already by far too heavy a tax on your patience, without again adverting to the letter of your correspondent on the husbandry of Rhode-Island. He says, "*I should think that one Rhode-Island labourer would perform as much as two and a half southern slaves.*" Now there is nothing peculiar in this remark, as similar opinions with regard to the Northern white labourers and our slaves, have been advanced in your Register, and so far as my memory serves me, without much, if any thing, being said on the opposite side of the question. I have often heard such opinions advanced in conversation, by highly respectable and intelligent persons. I think I have had sufficient opportunities of comparing these two very different classes of labourers, and right or wrong, though certainly meaning to be right, have long been of opinion, that man to man, our slaves perform as much or more labour, and perform it as well or better, than the labourers at the North, or at least beyond Pennsylvania. Without going into long details, let us look at general results. In the Blue Book (as it is called) for 1834, App. p. 34, is on account of the domestic exports of the United States, for the year 1832.

The agricultural exports are—

Product of animals, \$3,179,522	
Vegetable food, 352,494	
<hr/>	
	\$11,532,016
Tobacco, - - - - -	5,999,769
Cotton, - - - - -	31,724,682
All other agricultural products, -	159,716
	<hr/>
	\$49,416,183

Thus we see that cotton, a product obtained wholly by the labour of slaves, was in 1832 largely over two-thirds of the whole agricultural exports of the United States; since that time, the ratio has greatly increased. Add to this the tobacco, of which I am persuaded more than nine-tenths are produced by slave labour, and the vegetable food of which I think you will agree, more than one-half, consists of the wheat, Indian corn, and rice, raised by the labour of slaves. After this simple state of undoubted facts, can any judicious well informed person doubt that slave labour in agriculture is more efficient and productive in the Southern States, than free labour directed to the same object at the North? Will it be said that the domestic consumption of our lands is greater than the export? Without denying this as a fact, I would ask what proportion of the bread stuffs, the rice, the sugar, and molasses consumed by the people of the New-England and other Northern States, to say nothing of tobacco, is the produce of slave labour at the South?

I may be mistaken, but it has long been my settled opinion, founded on full, and I hope impartial consideration, that there are few countries where agricultural labour, by the same number of hands, obtains as large and valuable products as the slave labour of the Southern States.

This is not written, I assure you, in the spirit of controversy, but I hope from a better motive. It is right and proper that we should be stimulated to improvement in our agriculture, and there is too much room for it: but why should we so often be presented with so gloomy a picture of our husbandry, as compared with that of the Northern States? It would not, perhaps, be too strong to say, as Mr. Jefferson said on a different occasion, "in this I neither recognize the portrait of ourselves, nor the pencil of a friend."

You will not understand me, I hope, as meaning to cast any censure on the Northern husbandry. The farmers of New-England, and the other Northern States, whose management I have had an opportunity of observing, appear to me to be a class of men that would do honour to any country—steady, active and intelligent, their farm buildings, their implements, their working cattle and other stock, are generally in good order, and well attended to, and among them there are instances of farms well cultivated throughout, especially in the fertile valley of Connecticut river. But their husbandry in general did not seem to me to deserve this character. This I was satisfied, on inquiry and consideration, was owing to a course beyond their control. The scarcity, or in other words, the dearness of labour—a large proportion of their hands being employed in navigation and manufactures at high wages, farm labourers would of course require more for their services; and such neat husbandry as is practised in fertile and well



cultivated lands in Europe, would cost more than its worth. They seemed to me, in passing through their country, to be careful, rather than laborious. The leisure of the shepherd and herdsman, and the toils of the plough and sickle, have always been a subject of remark, and a fruitful theme of poetry, ancient and modern.

---

### Sheep Husbandry.

[FROM THE FARMER AND GARDENER.]

*Mr. Roberts.*—Sir,—Being unused to appear before the public, it is natural that I should feel some delicacy when I attempt to answer the questions you have propounded; but as you assure me that my ideas will be useful, at least, to some of your readers, I will venture to communicate the result of my experience. In respect to your first question, whether I believe the sheep husbandry to be profitable, I reply that it is a very profitable business in Maine. With regard to pasturing them on worn-out lands, I answer—they will greatly enrich such lands, and destroy most of the noxious weeds and bushes which may come in their way; and to these generally succeeds a rank growth of white clover. Such weeds as the sheep will not destroy, they crop the herbage close about the roots of, so that they may be handily cut with a scythe or dug up with a hoe. I believe all herbs of a bitter or aromatic taste, are eaten with avidity by sheep, and are generally soon cleaned from the ground. The *brake* and *thistle* are noxious plants which sheep will not eat till they are cut and wilted; but they must be broken down and checked in their growth by a little care in salting the flock on the spots infested. I have known land which was so worn out and weedy, that it would not produce a crop worth harvesting, so completely renovated as to yield abundant crops of corn, wheat, or grass. The time necessary to pasture the land will vary from three to six years, according to the state it is in when appropriated to this use, and other circumstances. This may be thought a slow way of manuring land, but let the farmer remember that it costs him nothing; but on the contrary, yields him a handsome profit all the while. Unless the ground to be pastured is already in grass, it should be sowed with red clover or timothy, and some rye would doubtless be beneficial, as it would come forward sooner than the grasses.

I have had but little acquaintance with any particular breed of sheep in its pure state; our sheep are mostly a mixture of Merino and Sax-on, with the English or common sheep first introduced into the country; so we have almost every grade of wool from the coarsest to the finest. I think the nearer they approach the merino, the more weighty\* and valuable fleece, but the ewes are less sure to raise their lambs, and are considered less valuable for mutton, but I think the merinoes are the most profitable sheep.

A good flock of sheep grade three quarters, merino half ewes, half wethers, one quarter of which are yearlings, well washed, should average about three and a half pounds per her head.

I have endeavoured to answer your questions according to the best of my knowledge; if any farmer doubts the veracity of my statements he can try for himself.

\* The neighbours of our friend from Maine, cannot yet have had any of the Bakewell or Southdown's introduced among them, or he would not talk of the merinoes imparting weighty fleeces to the respective grade sheep.

I aware that a flock of sheep by judicious management may be improved to almost any degree, but so many wiser heads and abler pens than mine have been employed to point out the necessary steps, I think it unnecessary for me to say any thing on that subject.

LEWIS ARMSTRONG.

### Extirpation of Garlic.

[FROM THE FARMER AND GARDENER.]

A gentleman in Virginia, having inquired of us the best method of extirpating garlic, we have taken the pains to collect together a few brief abstracts of the methods of various farmers, as communicated from time to time, for the *American Farmer*, of which this paper is the successor.

*Dr. Thomas E. Bond's Mode*.—"The process consists, simply, in three successive fall ploughings, winter fallows, and spring crops, as follows:—

The first fall ploughing to be succeeded by a crop of Indian corn: after the corn is gathered the ground to be ploughed and sown with oats the succeeding spring. The common weeds and stubble which are left after the oats are gathered, to be carefully ploughed down in the fall, and the ground again sown on the succeeding spring with oats and clover seed; or the clover seed may be reserved, and the ground may be appropriated after the second oat crop, to be a wheat or rye crop.—*American Farmer*, Vol. i. p. 320.

*Sylvanus*, in the same volume, page 350, recommends "A ploughing in November or December, and a spring crop of oats or barley, a ploughing in September or October, and a crop of rye, and the following season a crop of wheat with top dressing, and clover in the spring."

*C. K.*, a correspondent, vol. ii. p. 6, says:—"Garlic, if turned up by the plough, so as to be exposed without cover, the winter's frost will cause it to become a watery mass, covered by the outer root or skin, and will not vegetate; but I make no doubt many will lay safe under the mould and vegetate again. But a spring ploughing for either oats or barley, and then to prepare the same ground for wheat, effectually prevents its seeding amongst the wheat."

*Crasinus*, another correspondent, p. 382, vol. v. says:—"my mode is to attack this pest in its strong hold, and I have destroyed its bulbs by millions and tens of millions in the soil. My instruments were simply the plough-share, the roller and the harrow. My method of using them as follows:—Into the field intended to be laid down in wheat the following autumn, I put my plough, in December, January, or the first half of February, according to the weather and convenience. The flushing or turning up was done, so as to disturb and turn topsy turvey all the bulbs of garlic, and to expose them as much as possible. To be sure of this, the ploughing was done a fraction deeper (but not more) than the ground had been usually ploughed before.

In April the field was cross ploughed the same depth, rolled and well harrowed. It has been during this harrowing, that I have particularly observed the effects of my method. I have followed the harrow and examined bunch after bunch of the garlic. The main bulbs appeared very much wasted, and in a very unthriving condition. The offset bulbs in every stage of evident decay. Many not only dead, but easily reducible to powder by the rubbing pressure of the

thumb and finger. The field was again cross ploughed, and harrowed in June. At this cultivation a great majority of the offset bulbs, which had existed, could not be found, and most of the others were lifeless. Many of the main bulbs were alive, but did not recover so as to produce seed tops in the crop of wheat. The field was again ploughed and harrowed in August and September, and in October was seeded in wheat, and the wheat ploughed in. The spring after this crop of wheat was harvested, the field was again broke up and put into Indian corn, and of course, was well cultivated through this season. In October, wheat was seeded among the corn."

*H. Hollingsworth, Esq.* Head of Elk, vol. xii. p. 401.

"1st. Plough in the fall preparatory to planting corn—plough and harrow the same ground in the spring before planting the the corn.

2d. In the following spring plough and harrow the same ground, and then sow it with oats—thickly.

3d. Turn under the oat stubble immediately after harvest, and in the fall plough and harrow the field again, and then sow it with wheat.

4. Upon this wheat, sow at the usual time, clover seed *very thick*.

5th. In the fall thereafter, plough under the second crop of clover, and sow the field with wheat.

### On Bees and Bee Houses.

[FROM THE CULTIVATOR.]

The use of houses for bees, we believe, is of modern date. Some three or four winters ago, in travelling in Otsego county, we were shown the first bee-house we ever saw or herd of. One was four, and another six feet square, and six or seven feet high, made perfectly tight, with a good floor, and with a door for occasional entrance. One had been tenanted two summers, and contained probably about 200lbs of honey. The other had been occupied but a season, and contained less honey. Neither had sent out a new swarm. We were so pleased with management, that immediately on reaching home we had a bee house built, and in June following introduced into it a swarm of bees, the day they left the parent hive. They filled the hive in which they were introduced, but no more, and the next year sent out two swarms. In the mean time we made a bee-house, or bee-room, in our garret, adjoining the eastern brick gable end, fitted the interior for the reception of a hive, and opened an aperture through the wall at the point parallel with that where the bottom of the hive would stand. The first swarm that came forth were placed in it. They not only filled the hive, but nearly covered it with comb and honey the first season. We have taken from their stores a considerable quantity of honey for our table, always delicately white and fine, which has been more than made good the following summer. The quantity of honey in the room must now amount to nearly 200lbs. No interruption in their labours has been apparent, nor have they sent out in the three summers any new swarm. We built another bee-room in the garret last summer, and put therein a fine swarm of bees. They promise to do equally well with the first. A bee-moth has been occasionally seen in the garret, and one in the bee-house, but not the least indication of their web or larvæ about the hive or honey.

It has been said, that where there are a number of hives, the bee-moth concentrate in one hive, and leave the others undisturbed. This

has been in a manner verified by our observation during the two last years; for we have, in both years, found one hive almost literally filled with the worm, butterfly and web, which we immediately consigned, hive, honey and all, to the flames, but have not found a moth, or the signs of one in other hives from which we have taken honey. Though it is well to remark, that the honey has been uniformly taken from the uppermost of a double hive, with destroying the bees, which were driven into the lower apartment. The two boxes are of equal dimensions. A hole is made in the top of the lower one, for the bees to pass up, and the upper box set on and fastened to the lower one by hooks and button. The upper box is always filled first, and when the under one is filled, and this is considered sufficient to subsist the bees during the winter, the upper box may be taken off, the honey, which is found to be pure, and free from young and bee-bread, taken out, and the box returned. The bees are driven in the lower apartment by blowing tobacco smoke into the upper one.

In November last, we took the two late swarms, which appeared to have scanty supplies for the winter and placed them on a shelf in a dark cellar. About the 20th of March they were examined. The bees in one hive were dead; they had been apparently smothered for want of air or by bad air. Water had got under a corner of the hive and produced mouldiness. The honey had apparently suffered no diminution during the winter. The bees in the other hive were in good condition; not a dead one was seen; and on being removed to the stand, the day being warm, soon became lively. From this experiment, we think weak swarms may in this way be preserved during the winter in a dormant state.

In preparing a bee-house, we recommend that the hive which is to be put into it with the young swarm, for such we should prefer, be placed above the centre on the east wall, that the aperture through the wall for egress and ingress of the bees, be parallel with the bottom of the hive, and that the stagg on that side to sustain the comb, be fifteen or eighteen inches broad. The comb when extended on the outside of the hive, assumes the form of a cone, the top of the hive constituting the apex, spreading below equally on the front and sides and extending considerably below the hive. Without a broad stagg, therefore, the comb in front, having nothing to sustain it, breaks off from its weight, and falls to the ground.

---

### *Hints Relative to Dairy Management.*

[FROM THE NEW-ENGLAND FARMER]

Dr. James Anderson has published the following observations on this subject, which though they may not be new to many of our readers, may be original to some, and useful to most others by putting them in mind of processes and practices, which otherwise might escape from memory.

1. The first milk drawn from a cow is always thinner, and of an inferior quality to that which is afterwards obtained; and this richness increases progressively to the very last drop that can be drawn from the udder. 2. The portion of cream rising first to the surface is richer in quality and greater in quantity, than what rises in the second equal spaces of time, and so forth; the cream continually decreasing



and growing worse than the preceding. 3. Thick milk produces a smaller proportion of cream than that which is thinner, though the cream of the former is of a richer quality. If, therefore, the thick milk be diluted with water, it will afford more cream than it would have done in its pure state; but its quality will at the same time be inferior. 4. Milk carried about in pails, or other vessels, agitated and partly cooled, before it be put into the milk pans, never throw up such a good and plentiful cream as if it had been put into proper vessels immediately after it came from the cow,

"Cows should, therefore, always be milked as near the dairy as possible, to prevent the necessity of carrying and cooling the milk before it is put into the dishes, and as cows are much hurt by far driving, it must be a great advantage in a dairy farm to have the principal grass fields as near the dairy or homestead as possible. It is injudicious to put the milk of all the cows of a large dairy into one vessel as it is milked, because it prevents the owner of the dairy from distinguishing the good from the bad cows milk, so as to enlighten his judgment respecting the profit that he may derive from each. Without this precaution he may have the whole produce of his dairy greatly debased by the milk of a bad cow, for years together. A better practice, therefore, would be, to have the milk drawn from each cow separately, put into the creaming pans as soon as they are milked, without being mixed with each other; and if these pans were always made of such a size as to be able to contain the whole of one cow's milk, each in a separate pan, so that the person who manages the dairy, could thus remark the quality and quantity of each cows milk, and the same cow's milk were always to be placed on the same part of the shelf, having the cow's name written beneath, there could never be the smallest difficulty in ascertaining which of the cows it would be the owners interest to dispose of, and which he ought to keep and breed from. If it be intended to make butter of a *very fine quality*, it will be advisable, not only to reject entirely the milk of all those cows which yield cream of a bad quality; but also in every case, to keep the milk that is first drawn from the cow at each milking, entirely separated from that which is drawn last; as it is obvious, if this be not done, the quality of the butter must be greatly debased, without much augmenting its quantity. It is also obvious that the quality of the butter will be improved in proportion to the smallness of the quantity of the last drawn milk which is used, as it increases in richness to the very last drop that can be drawn from the udder at that time; so that those who wish to be singularly nice, keep for their very best butter a *very small proportion only of their last drawn milk.*"

We do not know that any of those who have made or attempted to make butter for premiums have proceeded in conformity to the above directions by Dr. Anderson, in their full extent. Mr. Luther Chamberlain, who in December last, obtained a premium of 50 dollars from the Massachusetts Society for promoting Agriculture, made use of cream of the first rising only, and observes in specifying his mode of making said butter that "the dairymen want to get rich too fast; this is a great reason why you do not have better butter. At this season of the year the cream ought not to stand on the milk more than twelve hours, in order to make good butter, of course we do not get more than half the cream. There will rise another coat of cream, which may be applied to other uses except butter."

Here we have one of Dr. Anderson's precepts put in practice, viz. that of using, for making the best butter, that portion only of the cream, which rises first to the surface; and, perhaps, Mr. Chamberlain's success may be mostly owing to his observation of this rule. We wish that Dr. Anderson's other rules might be observed by those who are striving to excel in that branch of economy, viz. that of keeping the milk, which is first drawn from a cow separate from that which is drawn last, and use the last drawn only for butter of the first quality. The cow-keeper, would also derive great advantage from keeping the milk drawn from each cow in a separate pan, and thus he would have not only an accurate criterion for estimating the character and value of each of his cows, but by using only the first risen cream, of the last drawn milk of such cows as give milk of the richest quality, he might hope to manufacture butter that would excel even the best premium butter which has ever won a prize at our exhibitions.

---

*Influence of the Moon on Timber, &c.*

[FROM THE NEW-ENGLAND FARMER.]

*T. G. Fessenden, Esq.*—Sir,—The influence of the moon, is a very unpopular subject to treat upon with some people; but that it is a necessary and valuable planet in our system, is made certain to me in various ways; one is when I have been travelling over a bad road in the night, the light of the moon has been very beneficial, and I think that it could not be called folly in me, to make use of the light which it afforded, to direct me with safety over dangerous places; and that its influences can be observed with but little more trouble, in other respects, such as felling timber for durability, and some kinds of vegetation, than in the above case of travelling. Now, if the gentleman, under hints to farmers in a late number of your very useful journal, will take the trouble to cut two white pine poles to put on his fence, one a few days after the moon has changed, and the other in the last quarter, if he does not let the moon know of his cutting them, she will let him know which part of his conduct is most approvable: the former will be all eaten with worms, while the latter will be sound and good, and last longer than three of the other.

I will now state some facts that have fallen under my particular notice within the last six years. In March last, six years ago, I was called to make a cider press for a man about eight miles from home. When I arrived at his house, I was shewn a stick of rock maple timber to set the screws in. The tree was twenty inches in diameter; in working it I found it in a green state, bark and wood. It looked as if it had been fallen but a few months; but in conversation with him about the timber, he informed me that the tree was cut down in the last quarter of the moon in August, eighteen months before; it had lain in the woods where it was felled. I was surprized at the appearance of the timber, knowing the sugar maple to be of that species of wood that will perish as soon as any wood I know of, cut down at certain times in the year or moon. My employer also shewed me a white maple log felled for fire wood; it was felled on the last quarter of the moon, in January, fifteen months before, that was in a perfectly green state, all but one or two feet of each end, which were dead but perfectly sound. Eleven years before, Dr. O. Griswold of Frye-

burg, applied to me to repair a hop press for him, and I went. He had procured a red or intervale maple stick for a beam recently felled, much the same as a white maple. He was not at home; I began to work upon it. As soon as he came, I told him I could do better for him than to put in a new beam. He agreed with me; I left working it and repaired his old press. It was hewed and the holes were beaten through for the screws. He said he could sell it and meet with no loss, the timber was in as good situation as it could be, being hewed and kept under his wood-shed to season for one year. The next year he sold it, and I was applied to, to set the screws in it. I went to work upon it, which was struck entirely through with white rot. I told my employer I thought it worthless; I set the screws, and it has answered, being kept dry under cover. By looking over a file of old almanacs, I find that the latter stick was cut on the first quarter of the moon, in September, about the same time in the year, and both lying in the shade.

The influence of the moon to some of us "down east," is in other respects very evident; in our sugar-making business; in the month of June and July, on the first quarter of the moon we peel birch bark to make little tubs of, to catch the sap from the sugar trees; which comes off with much greater facility at that time of the moon than any other. For the last six years I have been making very particular observations on cutting timber for durability. Any sort of timber cut on the last quarter of the moon, or within the last ten days of her age, will endure the changes of weather as long again, and many sorts three or four times as long, as when cut on the first seven days. Our stove-maker's know that timber cut on the first seven days of the moon's age, the sap part will powder post, and be worthless.

The gentleman ship owner who complained of the white rot in ship-timber, I will venture to say would not be troubled with it, if his timber were felled on the last ten days of the moon's age, and at a proper season of the year. Some respect ought to be paid to the season of the year; I strongly suspect that trees felled when the leaves are growing, would be much more liable to the white rot, than when they are not growing or off the trees. It has been made certain that there is very little alkali in ashes made from wood felled from the middle of May to the month of August. Potash can be made by making use of double the quantity of ashes. Common soft soap cannot be made unless by the use of quick lime, and then not certain.

*Inferences.*—If wood would live so much longer felled on the last quarter of the moon, I thought it would be a good time to take up young trees for transplanting, which I have done with much greater success than I ever had done before. I have cut scions and set them with like success.

The above items have fallen under my particular notice, since I made the man's cider press, and although simple as the above facts seem, I place implicit confidence in them, generally, and if I can add but the small sum of two mites to the agricultural treasury, I shall think myself well paid. The above is presented from a very humble, source, and if you think it worth an insertion, it is at your service.

Yours, very respectfully,

JAMES WALKER.

*Fryeburgh; (Me.) April 16, 1835.*



*Description of certain Improvements in the Process of Tanning.*

[FROM THE JOURNAL OF THE FRANKLIN INSTITUTE.]

Patented by Edward S. and Daniel Bell, Smithfield, Jefferson County, Virginia,  
July 28, 1834.

THE objects of the improved modes of procedure for which this patent is obtained, are, First, the softening the hides, or skins, and the freeing them from grease. Secondly, expanding the hides preparatory to their receiving the tan. Thirdly, the procuring the *tannin*, or tanning principle, from the ooze, pure, by filtering. Fourthly, causing the tanning lixivium more readily to enter the hides, by the use of mechanical compression made upon them under the surface of the ooze, and thereby shortening the operation.

The claims made are to the modes, and apparatus, adopted for the attainment of these ends. For softening the hides, twenty one and a half pounds of caustic lime, unslacked, and levigated, and sixteen pounds of carbonate of potash, and one pound of carbonate of soda, are to be added to every two hundred cubic feet of water. In the alkaline liquor thus formed, the hides are to be suspended in the usual way, by which means they will be completely softened, and have their grease neutralized, in from twenty-four to thirty-six hours.

The expanding or raising of the hides is to be effected by adding to every hundred feet of pure gallic lixivium, one pound of tartaric and one pound of sulphuric acids; by suspending the hides in this solution, a complete expansion it is said, will take place in six or eight hours.

To procure the tanning liquid pure, the ooze, after having been obtained from the bark, is to be filtered by putting into a vessel of the nature of the common hopper for obtaining ley, the bottom and sides of which are to be covered with about eight inches of raw cotton, and filled in with fine refuse tan, or exhausted bark. Through this the pure tanning liquor is to be passed, and collected in a proper receptacle.

The most important part of the process, however, appears to be the following, namely, the subjecting the hides or skins to mechanical pressure under the surface of the ooze, or tanning liquor. The apparatus employed for the purpose is fully described, and well represented in the drawing. A platform is to be made, and placed upon firm supports, which platform may be suspended between two vats containing ooze, and in which the hides were suspended. The platform stands a few inches below the level of the ooze in the vats, which is admitted to flow over it, there being ledges which serve to retain it upon the platform. Upon this platform the hides are to be submitted to the requisite degree of pressure. The tanning liquid is to be kept, by means of heaters, at a temperature of 98 deg. Fahrenheit. The hides are to be taken from the vats, and spread smoothly upon the platform, and then a kind of carriage, sustained upon two long rollers of wood or brass, is made to pass over them, the carriage being loaded with such a weight as may be necessary for the skins to be operated upon. The guides, ways, friction rollers, pulleys, &c., which are employed in the moving of this carriage back and forth, we need not describe. The object of this pressure is to remove the watery particles from the pores, which are left there after the ooze has become exhausted by the combination of its tannin with the skin; the pores are thus



closed, and the skin condensed, and in that state it is to be slipped again into the vat, without exposing it to the air, where, in the course of six or eight hours, it will again be expanded by the refilling of the pores with fresh ooze. This operation is to be repeated, employing a stronger tanning liquid after the first has produced all the effect expected from it; and thus in succession, a stronger and stronger, until the process is completed, "which, for heavy leather takes place in six or eight weeks, and for light skins, in from six to twelve days." To economize time and labour, there must be a series of such vats and platforms as has been described, thus enabling the workmen to proceed readily from a weaker to a stronger solution, these varying according to the nature of the skin; and requiring to be regulated by the judgment of the workmen.

---

### *Experiments on Bene Seed Oil.*

Report of Experiments made by request of the Committee on Premiums and Exhibitions, on Bene Seed Oil, furnished at the eighth Exhibition of the Franklin Institute, by Wetherill & Brothers.

In November, 1833, several bottles of bene seed oil were furnished the Committee on Premiums and Exhibitions, with a view to have determined, by experiments, the value of this article in the manufacture of wool, and particularly for painting in and out doors work, as a substitute for linseed oil. The following are the reports made by those to whom this oil was furnished for experiment.

*Experiment on its Use in Manufacturing Wool, by George Wall.*—The bottle of bene seed oil received for the purpose of essaying its usefulness in the manufacture of wool, has been tested as far as practicable with so small a quantity, being necessarily confined to a small lot of a particular kind of wool.

It was put on a lot of fine merino wool, which has considerable animal oil in it; this I thought not unfavourable to a full experiment, and particularly in respect to the glutinous substance which it was thought to contain, and which is, perhaps, the only objection which the manufacturer will find against its use. The quantity of this oil used was the same as that of sperm, or olive, for the same quantity of wool.

The only object of using oil in the manufacture of wool, is to make it work more freely in the carding and spinning; and those who performed that part of the work, are of the opinion that it worked as freely as that oiled with good sperm, or olive oil. In the process of extracting the oil from the cloth, or scouring, as it is usually called, it was found that this oil required more expense of materials and labour than the oils commonly used by manufacturers; this is a strong evidence that it contains more glutinous matter, which would be highly objectionable in the manufacture of some kinds of cloth, and particularly those of delicate colours, as the process of scouring would be very likely to injure them; but where the extra expense is the only objection, as it would be in the manufacture of many kinds of goods, it must be considered of minor importance.

After carefully observing all the different operations, from the wool to the cloth, and examining it in all its different stages, I am inclined to believe that this oil will answer a valuable purpose in the manufac-

ture of many kinds of woollen goods, but I cannot speak with entire confidence without testing it in a larger quantity, and on different kinds of wool. *Philadelphia, April 15, 1834.*

*Experiments, by M. Shove.*—Having received a small quantity of vegetable oil, I have endeavoured to ascertain its effects on wool, in the various operations of manufacturing.

I have ever deemed it desirable, in the application of oil on wool, that it should spread itself thinly over the surface, so that, if possible, every fibre should have an exceedingly small portion; the vegetable oil sent us appeared to do so about as well as summer strained sperm oil.

So far as relates to the operation of carding, I should think it might answer for coarse wool, provided it was used immediately after being applied, but when suffered to remain several days, a crusty envelope seems to form, which is very detrimental in the process of carding.

Whether a greater portion of this oil is absorbed; or exhaled, than sperm, I know not; but the circumstance of the crusty formation is still more prejudicial in the process of spinning than in carding, or in any operation.

It evidently appeared to me that this oil was more difficult to discharge than sperm oil, requiring more and stronger soap—consequently, more expense.

The peculiar smell of this oil seems to be retained after scouring; as this would be an insuperable objection to its use, I took particular pains in this respect, and thus, after repeated scourings, found that the wool was not divested of the odour, which is something similar to that of linseed oil.

Being mixed in about equal parts with lamp oil, I could not discover, in burning, any perceptible difference in the light, but thought it consumed a little faster; I was not positive, however, in this respect, as it was not marked precisely, and I had not enough left to make another trial.

I regret that the result did not prove as favourable as the sanguine wishes and hopes of the friends of American industry and improvement could desire,

*Experiments on the Use of Bene Seed Oil, in painting on out-door work, by Charles Wetherill, and J. G. Harker.*—In November, 1833, J. G. Harker had a post in his yard painted, part with bene seed, and part with linseed oil; at present, both present the same appearance; both dried quickly.

In the early part of October, 1834, J. G. Harker had other out-door painting done with the oil of bene; on this occasion, the paint was mixed and prepared for painting by C. Wetherill, who, with a view to ascertain its drying property, mixed the paint without the usual quantity of drying. The paint was laid on the work on Saturday evening, and although it rained previously to Monday, it was dry on that day, and now looks well; and from every opinion, upon close examination, we do believe that this oil will answer a valuable purpose for out-door work.

The report on greasing wool and machinery, we believe, is before the Committee of the Franklin Institute.

*Improved Method of Hulling and Breaking Cotton Seed,*

Specification of a patent granted to C. Beck and W. Jenks, of Columbia, (S. C.)  
December 17, 1834.

[FROM THE FRANKLIN INSTITUTE.]

WE make a cylinder of wood, either solid or in sections, which is to be perfectly round, and to run on gudgeons in suitable boxes; this cylinder we cover with sheet iron, or sheet steel, punched from the inside, so as to form the surface into a rubber, or grater. The punch by which the teeth are formed is so shaped, that in raising them, they are straight, or square, on one side, and rounding on the other, the straight side being that which meets the seed in the turning of the cylinder. These teeth are in spiral rows, placed at an angle of twenty-five or thirty degrees with the cylinder, and about three-fourths of an inch apart.

We also prepare a concave bed of a curvature adapted to the cylinder, which we cover with teeth in the same way, but placing the rows of teeth at a different angle. This concave may be borne up to its place by springs, so that it may recede, should any hard substance pass in with the seed. Its ordinary station, however, is such that its teeth come nearly, but not quite, into contact with those on the cylinder. The hull will be removed from the seed by passing it through this machine, and the seed will also be broken into small pieces, when the two may be separated by a sifter, which may either be attached to the machine, or used subsequently. A machine thus constructed will hull the seed as rapidly as three gins will deliver it, and that in the most effectual manner.

We are aware that machines very similar to that which we have described, have been used for hulling clover and other seeds, and for rubbing and smutting wheat, and other grain; but we have adapted it more perfectly to the hulling and breaking cotton seed, by the form which we have given to the teeth, which adaptation will be clearly understood by an examination of the drawing deposited in the patent office; and it is this adaptation which we particularly claim as our invention.

CHARLES BECK,  
WILLIAM JENKS.

*The means of Recovering and Preserving Yards from Foul Weeds.*

[FROM THE FARMER'S REGISTER.]

" Ben Lomond, June 5, 1835.

Dear Sir,—Though the subject of the following communication may be considered by yourself as unworthy of a place in your periodical, yet I feel that it contains information interesting to at least a small portion of your readers. In this communication, I shall make no pretensions to *originality* or *discovery*, as my information was derived from an intelligent lady near me. She informed me that her

yard was at one time infested with (I use her own words) all kinds of foul weeds, the common old field broom straw, &c. &c. While on a visit to her this spring, I was struck with the peculiar beauty of her yard, and its purity from all "foul weeds." I inquired the cause, as it was a subject of interest to me, having seen many beautiful sites for yards, destroyed by allowing the foul weeds to take possession of them.

Her *modus operandi* is simple, but which I fear will be no recommendation. At any time in the spring, (before a rain is preferable) if ashes are scattered over the yard, in a short time all the foul weeds will be rooted out, and in their place will come a beautiful bed of the greensward grass. The ashes should be scattered frequently, always before a rain, (I suppose during the year.)

*Query.*—Would not the sulphate of lime (plaster of Paris) accomplish the same object? Whether the ashes act as a manure, thereby facilitating the growth of the grass, or whether they destroy the weeds, I am unable to say, though I think the former supposition the most probable. This communication is induced from the reflection, that there can be no ornament more superlatively beautiful, than a handsome yard about a handsome building—and trusting that these ideas will serve a useful purpose, I am willing to submit them to your discretion, though not clothed in such a garb as I could wish for your truly useful paper.

As I highly approve of a piece which I met with in your paper, suggesting the idea that all communicators should affix their true name, I subscribe myself,

T. B. WATKINS, of Goochland.

[The facts stated above are not only interesting as furnishing matter for useful and often needed practice, but because they also serve to illustrate the views already expressed. The principal, if not the sole agent of the change produced by the application of ashes, was the calcareous earth which they contained—of which earth, the benefit to greensward is as remarkable as to clover. Broom grass is not, usually, at once destroyed by the use of this moisture, (as sheep sorrel is) but the growth is evidently injured by calcareous manures, so as to induce the belief, that the destruction will be complete in time. We have only in one case observed the almost complete destruction of the growth of broom grass, which was previously the unmixed cover of a worn-out old field. This was also produced by top dressing—but with marl, instead of ashes. The piece of ground (about an acre) was neither ploughed nor grazed for several years after; and by the third summer, the broom grass had generally disappeared, and was substituted by other weeds, except in some small spots which it was supposed the manure did not reach. After ploughing in marl, and even after several years tillage, broom grass will return, and even grow luxuriantly—but it is in separate and scattered bunches, instead of forming a regular and unmixed cover to the land, as before marling.—*Ed. Far. Reg.*]

### Broom Corn.

[FROM THE NEW-YORK FARMER ]

The cultivation of broom corn is carried on to a very great extent on some of the alluvial lands on the Connecticut river, and in small patches in many of the interior towns. The towns of Hadley and Hatfield raise large quantities, which are manufactured into brooms,



and distributed throughout the country. The seed is considered of about two-thirds of the value of oats, and mixed with corn, makes an excellent provender for fattening either of swine or neat cattle. The return of seed is somewhat precarious; but often it is abundant, and will more than pay the whole expense of cultivation and preparing the crop for market. I have known a case in which 150 bushels of good seed have been obtained from an acre; and I have been assured on good authority, of a still larger yield, though this is not frequently to be expected. One thousand pounds of broom to an acre is a very good crop. It will pay well for manuring and good culture. No crop is more beautiful than the standing corn when in perfection. It frequently attains a height of 12 to 15 feet. The stalks of the plant are very long and hard, and, therefore, rather difficult to load upon a cart. They are considered as of no value but for manure. The usual practice is to table the corn, that is, to cut off the top, or tassel, as the broom is called, about two feet from the top, and bending the stalks of two rows together, lay it down until it is seasoned and fit to be carried in. The remainder of the stalks are then burnt in the spring in the field, and some little advantage is derived from the ashes. A much better way, it is thought, is, after gathering the crop, to cut the stalks and lay them lengthwise in the rows, and plough them immediately under. They will become entirely decomposed by spring. A still better mode is to carry them into the cattle and sheep yards, where they become incorporated with the manure, and make a valuable addition to the compost heap.

The seed is planted in rows, wide enough apart for the plough to pass conveniently between them, and dropped in hills about eighteen inches from each other. Four or five stalks are considered sufficient to remain in a hill—more are sometimes allowed. The cultivation and manuring is more than for Indian corn. It may be manured in the hill or by spreading, or in both ways, as you have the means of high cultivation, which this plant will bear. The stalks are not eaten by cattle, or even browsed by them; but I am not certain that the leaves would not furnish a good feed for young stock, if stripped early, when tender, and well cured, as Indian corn blades are cured at the South. What would be the effect of such mutilation upon the crop itself, and whether it would compensate for the labour, are inquiries which I am not able to answer, and in respect to which I cannot learn that any experiments have been made. As it is at present managed, the plant returns little to the ground compared with Indian corn; and the Hadley and Hatfield farmers are obliged to connect with it the fattening of beef to a considerable extent, to furnish manure for their broom corn.

It is deemed a good crop when the broom commands five cents per pound. The price has heretofore been subject to great fluctuations. At one time it was the custom for the farmer to make up his own brooms, and then to go and sell them where he could. This was bad for all parties. It brought too many competitors into the market; and often unduly depressed the price, and the buyers were obliged to put up with an inferior article. Now the manufacturing and the growing of broom are in different hands; and the farmer, as soon as his broom is ready for the market, finds a purchaser at a steady price; and the manufacturer feels that his reputation, and consequently his success, are concerned in the quality of the article which he furnishes.

It is a little remarkable, that notwithstanding the extent and importance of this product, for one manufacturer within a few miles of me makes several hundred thousands of brooms a year, in no book of agriculture in my possession can I find any account of the cultivation of this plant, not even in that excellent New-England work, "*The Complete Farmer*." The Shakers for a long time almost monopolized the raising of the plant and the manufacture of brooms; and their brooms, which, like the other manufactures of this industrious community, were always of a superior quality, usually commanded a high price, generally 42 cents or more. Corn brooms are now frequently sold from eight to twenty-five cents; but many of them are like Pindar's razors, "made to sell." The Shakers, however, maintain the quality of their manufacture. The handles, in an unfinished state, are furnished for a cent a piece; the wiring and the tying on are usually done by the hundred. The scraping the seed from the brush is an unpleasant business, and often very injurious to the eyes. The manufacture, where it has been carried on extensively and with ample capital, has yielded encouraging profits.

An intelligent and enterprising farmer in my neighbourhood, who last year cultivated three acres, and one half of broom corn in our alluvial meadows, has been kind enough to furnish me a detailed account of the expense of cultivating an acre, which may be relied on for its exactness, but in which the rate of labour is probably over estimated by the day. His broom was sold in the autumn at eight and one half cents per pound. It readily commands this spring 12½ cents; had he fortunately retained his broom until this time, the profits would have been greatly enhanced, while the expenses would, of course, have remained the same.

Account of expenses of cultivating an acre of broom corn in Deerfield meadows, in the year 1832, by Mr. Alvah Hawkes:

One ploughing, 12th May, - - - -	\$1,25
Holeing out, one-third of a day's work, - -	0,34
Ten loads of manure, at 75 cents - - - -	7,50
Putting manure in the hill, - - - -	2,00
Planting one day's work, - - - -	1,00
Seed, 4 quarts, at 75 cents per bushel, - - -	0,10
Hoeing, first time 3½ days, - - - -	3,00
do. 2d do. 3 do. - - - -	2,50
do. 3d do. 2½ do. - - - -	2,50
Horse and boy to plough for the season, - -	1,00
Tabling and cutting 4 days, - - - -	4,00
Gathering, carting, and packing away, - -	2,50

\$28,68

The expense of cultivating one acre is \$28,75, the labour being rated at one dollar per day, which is more than the actual cost, as I hired my labourers by the month, at from six to ten dollars per month. The yield was at the rate of 991 pounds to the acre. Had all my ground been fully stocked, it would have exceeded ten hundred pounds.

The expense of scraping the brush for the seed was thirty-three cents per hundred pounds. The brush was sold at 8½ cents per pound. The crop of seed was light and poor; fifty bushels to three acres, worth 16½ cents per bushel, or \$8,33 to an acre.

Summary expense of cultivation of one acre as above, \$28,68			
Scraping 1000 pounds,	-	-	3,30
Board of man 5 days,	-	-	1,07
Rent of land, say \$16 per acre,	-	-	16,00
			<hr/>
			\$49,05
Sale of brush, 1000lbs. at 8½ cents,	\$85,00		
Seed upon one acre,	-	8,33	<hr/>
			93,33
			<hr/>
Nett profit on one acre			\$44,28

The sale of the brush at 12½ per pound, the present price, would have enhanced the profits forty dollars, and made them \$84,28. This is very remarkable, and certainly affords ample encouragement to labour. That it can be often done is not to be expected; and yet there is nothing extraordinary in the process. The uncertainty of the seasons is something, and the fluctuations in the market prices of broom are great, the amount of crop, though large, was not more than can usually be commanded by good and generous cultivation. Many of our lands, besides the alluvial meadows, are capable of producing good crops; and the great yield of 150 bushels of seed to the acre mentioned above, with broom, of course, in proportion, was produced in one of the most rough and rocky towns in the commonwealth, and on land which owed every thing to good management. I hope the length of these details may be excused.

Meadowbanks, 7th May, 1835.

H. C.

### *Properties of Mules—How to Choose, &c.*

[FROM THE FARMER AND GARDENER.]

The following extracts from a letter from a distinguished gentleman of Kentucky, who is extensively engaged in the breeding of mules, contains many valuable hints with respect to the selection of this valuable animal, for particular services. The experience of a practical farmer of superior intelligence, in matters of this kind, are of the very first importance, and hence we feel assured our readers will thank us for translating the following to our columns:

"If you think of purchasing them for your own use, first determine whether you want them for the plough, wagon or harness.

If for tilling the earth, look at the quality of your soil. If for light, sandy soil, or the rapid motion of a carriage, or light vehicle of any kind, select them tall with round but slender bodies, with flat, boney, sinewy legs, with rather short thin ears, a clean head and as fiery an eye as possible: in fine, those which most resemble the horse when brought on the turf.

If for tough clay land, or the heavy slow draught of a wagon, select those with the largest heads, the longest flapping ears, the coarsest limbs, the heaviest bodies; those which most resemble the Jack in every particular, except size. The latter are best adapted to plantations entrusted to overseers and negroes, as they will endure, without any apparent injury, to be beaten and bruised in such a manner as would render one of the former unfit for service for days.

Colts to make first rate mules should never be under 3 feet 3 inches when foaled—if *extra*, they should be from 3 ft. 5 in. to 3 ft. 8 in.

As an *invariable rule* let them have *length of leg*, an apparent excess in that portion between the knee and pastern joints."

## PART III.

### MISCELLANEOUS INTELLIGENCE.

**Bagster's Management of Bees.**—The object of Bagster's treatise on the management of bees is, to reduce the management of bees to a few simple general principles. Among these may be included the principle of limiting the increase of numbers to the quantity of food; that is, to the flowers which the given locality affords. This, Mr. Nutt and Mr. Bagster have proved, is to be done by keeping the bees moderately cool, and thus preventing them from swarming. A second principle is, to keep the bees constantly working; and this is effected by the operation of the first principle, and by depriving them of their honey as it is produced. The remaining principle is, to preserve and improve the cultivated variety of bee. This is done by never allowing them to be starved for want of food; and by never allowing the larvæ to be reared in old cells. These cells become smaller with age, in consequence of the thickening of their sides, owing to every larva hatched in each leaving the membranous covering that had invested it behind it in the cell; and the smaller they are, the smaller will be the bees produced in them.—*Lon. Gar. Mag.*

**Bugs in Cucumbers.**—On every square rod planted with cucumbers, put a piece of a board flat on the ground, to preserve your plants from a striped bug, which in some seasons is very destructive. This simple experiment may seem to be novel and ineffectual; but the secret of the matter is, the board forms a shelter for a toad, which hops from under the cover at night and destroys the bugs, and during the day time may be found by turning over the board. Should any one have doubts on the subject, he can easily try the experiment.—*Tenn. Far.*

**Interesting to Wool Dealers.**—Col. Shepherd of Worcester, estimated the amount of wool raised last year in the United States, at 75,000,000 pounds. There were imported during the same year three millions and a half of coarse wool, under eight cents per pound, and thirty-four thousand pounds of fine wool. In the same period about 350,000 pounds of American were exported, leaving about 78,000,000 manufactured in this country. In addition to the above, wool was imported in the shape of manufactured cloth, to the amount of about 6,000,000 pounds. The whole amount of wool consumed then was 84,000,000 pounds.—*Fran. Mer.*

**Wool.**—This article is becoming one of the greatest importance to our country. Indeed, it would be difficult to account for its culture having so long been neglected, where all the means of producing it are so abundant. We know of no part of the world where wool has been higher, on an average, for the last ten years, than in this country; and no one better calculated to raise it for export, than this. Instead of making it an article of remittance to Europe, we have been and are at present importing it in large quantities, the importer realizing, it is said, a fair profit for his enterprize. By the growth and manufacture of wool, England has added immensely to her wealth and power. Her clip has been estimated for some years past to exceed one hundred and forty-millions of pounds annually; while here with a soil and climate better adapted to its growth, with lands at about one-eighth the price, and ten times more extensive, we do not produce more than seventy-five millions of pounds.

In 1830, after a careful investigation, the number of sheep in the United States was estimated at twenty millions, producing fifty millions of pounds of wool. At the present time a fair estimate would probably be above twenty-eight millions.

Pennsylvania especially, with her unoccupied hills and dales, should look seriously to this matter. We believe that no State in the Union is better adapted to the growth of wool, yet New-York is at present considerably in advance of her. The clip in New-York is estimated at six millions of pounds, while that of Pennsylvania is only four to four and a half millions. Either of these States could



annually produce twenty millions of pounds, without decreasing any other of their present production.

There are several counties in the western part of this State that have entered with great spirit into this business, and "sheep farms," (as they are there called) are rapidly advancing in value. Among these we would instance Washington, Fayette, and Green Counties. The former County alone, will probably sell this year above half a million pounds of wool, yielding at least two hundred thousand dollars in cash, as the finer qualities of wool are principally grown there.—*Philad. Com. List.*

**Planting Fruit Trees.**—Let it be observed as a general rule, always to plant or transplant your fruit trees, before a leaf expands or a blossom appears; it is true, that some plant later, but never with equal success.—*Silk Cul.*

**Remedy for Poison.**—The most efficacious remedy for the most active poison known in nature is *suction by the human mouth*, in cases of wounds into which poison is injected, and which may be extended to those from the fangs of serpents, particularly from those of the rattle snake; and I have no doubt also, but that the same remedy would have equally beneficial effects, if applied to wounds inflicted by dogs under the influence of hydrophobia. Colonel John Wharf, of Washington County, in Pennsylvania, sucked a wound on the foot of one of his sons, inflicted by a rattle snake. A young woman within a quarter of a mile of my father's house, performed a similar cure on the foot of her brother. In neither instance was the slightest inconvenience experienced from the poison being received into the mouth, nor did the wound amount to more after the suction, than a brier scratch would have produced; I mention these cases as instances coming under my own eye. In fact, the North American Savages are perfectly aware of the certain benefit of suction, but as well as the whites, are deterred in many instances from its application, from an apprehension of danger to the person who performs the humane act. I will not say, that in the performance of such an act, there is no danger; but I have known no serious consequences follow where it has been put into practice.

WILLIAM DARBY.—*So. Plan.*

**American Silk.**—Raw silk, we learn from the Burlington Free Press, has been produced this year in Mansfield, Connecticut, to the amount of over \$60,000. The county of Windham, Conn. produces five tons of silk annually, valued at \$50,000, and if reeled, would be worth double that sum.—*Poul. Daily Adv.*

**Green Vegetable Manure.**—The value of green vegetables as manure was strikingly proved by me in the spring of 1833. I had a trench opened of sufficient length to receive six sets of potatoes; under three of these sets I placed green cabbage leaves which yielded about double the produce of the other.—*J. D. Parks Dartford Nursery.*

**The Ficus elastica, or Indian-rubber Tree**—has this year fruited in the conservatory at Syston Park. In 1828, I planted a small plant, about 18 inches high, in a bed composed of equal parts of peat loam and vegetable earth; and in four years it attained the height of 18 feet, and reached the glass. I then cut it back 2 feet, which caused the horizontal branches to push side shoots, which shoots showed fruit the same summer, and the fruit got to its full size in October, when it turned brown, and dropped off. The stem of the plant is perfectly straight to the height of 16 feet, and it measures 17 inches in circumference at the bottom. The lower branches have been pruned off, and some of the upper ones brought down nearly to the stem, which gives the whole plant a very fine appearance. The leading branches have been shortened in twice; and the circumference of the extreme branches is now 32 feet; many of the leaves are 16 inches long, and 5 and a half inches wide. Had the plant been planted in the centre of the house, it would have reached the highest part of the roof, which is 23 feet.—*John Sharman, Gardener to Sir John C. Thorold, Bart. Syston Park near Grantham, Oct. 16, 1834.*

We received several of the fruit, which are small cylindrical bodies, about half an inch long, and a quarter of an inch in diameter, terminating abruptly at both ends, with a rough surface of a greenish brown colour. In no point of view can they be considered as ornamental.—*Lon. Gar. Mag.*

**Brugmansia suaveolens.**—I herewith forward you an account of a plant which will far surpass any I have heard of or seen described. It is 17 feet high, and 45 feet in circumference; the trunk, at the surface of the soil, is 18 inches in circumference, and at 4 feet from the ground, where it begins to branch off, 13 inches.

It has, at this time, upwards of 600 blossoms fully expanded, and a great many unexpanded; the flowers average 1 foot long, and 8 inches in diameter; and their beauty and fragrance are beyond conception. The plant occupies the centre of a circular conservatory; it was planted when about 5 feet high, seven years ago, in a mixture of loam, peat, and vegetable mould. It has flowered equally well for the last four years. At Lewiston House, (Dorsetshire,) the seat of R. Gordon, Esq. M. P., is to be seen a magnificent specimen of the *Datura arborea* which is now in full blossom. It is about 10 feet in height, 40 feet in circumference, and exhibits, we should think, at least 400 flowers. This plant is a native of Peru. It was turned out of a large pot, about four years since, into its present situation, the conservatory.—*Ibid.*

**Cure for Gapes in Chickens.**—To one quart of corn meal add about one spoonful of sulphur and as much salt as will give the dough a salt taste—make it into dough. We are assured by a respectable farmer who has repeatedly tried it, that if this food be given to young chickens frequently, say once a week, until the season for gapes is past they will not take the disease, and that if labouring under it, three or four meals of it in succession will cure them.—*Wash. Rep.*

**To Preserve Milk.**—In very warm weather, when milk sours soon, put two table spoonfuls of salt into every pail of milk before straining, and it will greatly improve the quality and quantity of butter.

**To Purify Molasses.**—8lbs. molasses; 8lbs. water; 1lb. coarsely pounded charcoal. Boil them together twenty minutes, strain through fine flannel double. Boil again gently with the white of an egg, till it forms a syrup of proper consistency, then strain it again. Prepared in this manner, molasses will be nearly as good as sugar.

**To restore Tainted Meat or Fish.**—Put a few pieces of charcoal into the pot into which it is to be boiled.

**To wash Calico without fading.**—Put a table spoonful of common salt into the suds, and the colours will remain bright.

**Importance of Agriculture.**—From a late highly praised work on the capital and resources of the British empire, the London Metropolitan makes some extracts for the purpose of proving the immense importance to England of agriculture, and the capital staked in it, compared with that employed in manufactures. According to a table in this work the gross annual product of Great-Britain and Ireland, raised by the combination of capital with all animate and inanimate power, is five hundred and fourteen millions of pounds sterling, nearly half of which is from agriculture. As the table exhibits the relative importance of the several great sources of the immense wealth of Great-Britain, and is therefore of general interest, we annex it.

Agriculture, - - - - -	£246,000,000
Mines and Minerals - - - - -	21,400,000
Inland Trade, - - - - -	48,425,000
Coasting Trade, - - - - -	3,550,000
Fisheries, - - - - -	3,400,000
Shipping and Foreign Commerce, - - - - -	34,398,059
Bankers—Profits of this class, - - - - -	4,500,000
Foreign Income, - - - - -	4,500,000
Manufactures, - - - - -	148,050,000
	<hr/>
	£514,823,059

In addition to poor rates and county rates, which amount to several millions, the agriculturists pay twenty six millions, or one half of the taxes of the empire. The amount of capital employed in agriculture is set down at about two billions of pounds sterling, or more than one half of the capital of the United Kingdom. According to this estimate the national debt is equal to one fifth of the whole capital of the empire.

**Carrots as an Improver to Butter.**—A writer in the *New-England Farmer*, says that, according to the suggestion of the editor of that paper in January last, he had tried the effect of carrots as an improver of butter, for several weeks during the last winter. The mode pursued by him in making his experiments, are thus briefly stated by him:

"Our mode has been to take four carrots of the Altringham kind, of about one and a half inches in diameter to cream enough to make ten pounds of butter, and after washing them clean, to grate them and cover them with new milk, and after they have stood ten minutes, to squeeze them through a cloth into the cream, and the effect has been to make the butter come quicker and give it the colour and sweetness of May butter; so sweet and waxy has been the butter made in this way, that those persons who have eaten of it, could not believe they were eating winter butter. We consider it the greatest improvement we have ever known in making butter at this season."

---

MONTHLY CALENDAR  
OF  
HORTICULTURE AND FLORICULTURE  
FOR SEPTEMBER.

---

VEGETABLE GARDEN.

**Bush Beans.**—You may in the early part of this month still plant a few Bush or Snap Beans. This work, however, should not be delayed.

Let the earth be drawn up to the stems of the Beans planted last month.

**Peas.**—If you have neglected sowing Peas in August, you may venture to sow some early in this month, those that have been sowed last month will now require sticks 4 or 5 feet high. Let them also be carefully hoed.

**Cauliflower and Brocoli Plants.**—You may now transplant Cauliflower and Brocoli Plants in the manner directed in former months, say 2 and a half by 3 feet in rows, water the plants carefully until they take root. An excellent mode of preserving Cauliflower and Cabbage Plants from the depredations of the cut worm, is to wrap a paper around the stem, extending an inch above the surface and a little below it; the worm usually cuts off the plants immediately on the surface of the earth.

**Cabbages and Savoy.**—Towards the middle of this month you may begin to transplant the Early York, Sugar Loaf, and Savoy Cabbage Plants, sown in the last month. Let your beds be well dug and some good manure spaded in. Let the Early York be set out a foot and a half apart, and the Sugar Loaf and Savoy a foot and nine inches.

If the weather should prove very wet, you may plant your Cabbages on small beds or ridges. If you have omitted sowing your Cabbage seeds it is not too late to attend to this duty in the early part of this month. Your Cabbage seeds had better be of European importations.

**Turnips.**—If you have not sown any Turnips last month, it is necessary that this work should be attended to as early as possible; the Red Top and Early Dutch are the best kinds, sow the seeds as advised in former months, and let them be carefully thinned.

**Carrots and Parsnips.**—If these were omitted to be sown the last month, let them now be attended to, they will be sufficiently large for use in December or January.

**Endive and Lettuce.**—You may continue to sow seeds of these plants, but the sooner the better, as it is requisite that they should acquire a sufficient degree of strength before the cold weather sets in.

**Celery.**—The Celery Plants which were put out in the last month, and in July, will now require a little fresh earth to be drawn towards them. Care must be taken that the earth does not fall into the hearts of the plants, which would choke them. You may put out more Celery if you have not a sufficient quantity already, as there is sometimes an advantage in planting at intervals of some weeks from each other.

**Onions.**—You may now sow Onion Seeds for a general crop. They may be sowed about the middle of this month, in drills about 8 inches apart, on beds 3 or 4 feet wide. The seeds may be put in pretty thick.

**Radishes.**—The different kind of Radishes, such as the Salmon and black and white winter Radish, may now be sown, the latter especially succeed remarkably well when sown this month.

**Spinach.**—Spinach may be sown at any time in the present month. Let the seed sown in the last month be carefully hoed.

#### FRUIT GARDEN.

Very little can be done in the Fruit Garden this month.

**Strawberries.**—This is the proper season to set out Strawberry Plants. Let the ground be well dug and manured, divided into beds 4 feet wide, allowing 15 inches for the alleys, and let them be 5 or 6 inches deep. The plants set out about 10 or 12 inches apart.

#### FLOWER DEPARTMENT.

This is the most favourable month for attending to the Flower Garden; all bulbous roots taken up in the Spring are now to be set in the ground. Snow Drops, Polyanthus, Narcissus, Iris', Jonquils, Crocus', and Hyacinths. You may also sow Wall Flowers, Stock Jelly Flowers, Pinks, Carnations, Marygolds, Mignonette and Geranium seed.

Plant out in jars the different kinds of Oxalis and Tritonia for the Green-house—set out Geranium and Rose cuttings. Remember that much of the success of your garden, for a year to come, depends on the manner in which you attend to it this month.

#### PLANTS, NATIVE AND EXOTIC, THAT BLOOMED IN AUGUST.

Among the most beautiful of our Native Plants that bloomed last month, and still continue in blossom, are the various species of Orchis, which are found growing in low wet soils, and which, in some places, nearly cover the earth with beautiful flowers, most of them of a yellow colour. The *Orchis ciliaris*, *blephariglotis cristata* and *Nivea*, are the most common. *Habenaria Michauxii* and *repens*, though less common and not so conspicuous, are still sufficiently interesting. Our woods are at this season ornamented with various species of the *Liatris*, among the most beautiful of which are the *Liatris elegans*, *gramminifolia squarrosa* and *Spheroida*. Indeed, there have been an immense number of syngenisius ornamental plants blooming in the latter part of the month of August, they will, however, be in greater perfection during this month. The various species of *Rhexea* and *Hypericums*, have given an additional ornament to our fields and woods. This is also the season, for the flowering of many beautiful species of exotics. Our gardens are ornamented with the Dahlias, double Balsams, Phlox's, Convolvulus', China Asters, Marygolds, double flowering Oleanders, and an immense variety of others. The Botanist may at this season derive amusement and pleasure from the pursuit of his favourite study. The fields, the woods, and many ornamental gardens in and around our city, invite him to the pleasing task.

We have been presented with several kinds of delicious fruit—Such as *Pears*, from Mr. Ravenel's plantation, at Goosecreek. *Peaches* and *Nectarines* from Mr. Michel's Garden, in St. Philip's-street. *Grapes* from Mr. Rout's Garden, in Friend-street; all which excelled in their several kinds.

---

#### ERRATA.

In page 170, line 20, for lat. "28," read 27.

" 171, " 11, for lat. "28." read 27.

" " " 12, for "Tampa Bay," read Charlotte harbour.